GCL

GCL Technology Holdings Limited
協鑫科技控股有限公司

(Incorporated in the Cayman Islands with limited liability)
(Stock Code: 3800)

Bringing Green Power to Life

TECHNOLOGY • DIGITAL • GREEN

2022 ANNUAL REPORT

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FIVE-YEAR FINANCIAL SUMMARY

	For the year ended 31 December				
	2018 RMB'000 (Restated)	2019 RMB'000 (Restated)	2020 RMB'000 (Restated)	2021 RMB'000 (Restated)	**2022** **RMB'000**
Continuing operations					
Revenue	14,933,038	13,197,634	9,685,547	16,868,378	**35,930,485**
Profit (loss) before tax	(1,266,665)	(464,633)	(5,099,238)	5,782,613	**18,302,602**
Income tax (expense) credit	58,877	(29,285)	45,866	(543,992)	**(1,880,020)**
Profit (loss) for the year from continuing operations	(1,207,788)	(493,918)	(5,053,372)	5,238,621	**16,422,582**
Profit (loss) for the year from discontinued operations	749,354	604,753	(1,217,879)	(537,614)	**(942,631)**
Profit (loss) for the year from continuing and discontinued operations	(458,434)	110,835	(6,271,251)	4,701,007	**15,479,951**
Profit (loss) for the year from continuing and discontinued operations attributable to:					
Owners of the Company	(693,399)	(197,207)	(5,667,864)	5,083,952	**16,030,307**
Non-controlling interests	234,965	308,042	(603,387)	(382,945)	**(550,356)**
	(458,434)	110,835	(6,271,251)	4,701,007	**15,479,951**

	At 31 December				
	2018 RMB'000	2019 RMB'000	2020 RMB'000	2021 RMB'000	**2022** **RMB'000**
Total assets	112,493,764	100,436,959	80,502,897	64,097,914	**85,564,468**
Total liabilities	85,661,257	73,715,551	60,111,692	31,796,309	**40,009,557**
	26,832,507	26,721,408	20,391,205	32,301,605	**45,554,911**
Equity attributable to owners of the Company	21,865,556	22,250,159	16,589,119	29,026,013	**42,682,274**
Non-controlling interests	4,966,951	4,471,249	3,802,086	3,275,592	**2,872,637**
	26,832,507	26,721,408	20,391,205	32,301,605	**45,554,911**

PERFORMANCE HIGHLIGHTS

	For the year ended 31 December			
	2022 RMB'000	2021 RMB'000 (Restated)	Change RMB'000	% of change
Continuing operations				
Revenue				
Sales of wafer	**14,045,577**	8,456,880	5,588,697	66.1%
Sales of electricity	**216,970**	214,947	2,023	0.9%
Sales of polysilicon	**17,661,338**	5,964,921	11,696,417	196.1%
Processing fees	**2,793,280**	1,665,103	1,128,177	67.8%
Others	**1,213,320**	566,527	646,793	114.2%
	35,930,485	16,868,378	19,062,107	113.0%
Profit for the year from continuing and discontinued operations attributable to owners of the Company	**16,030,307**	5,083,952	10,946,355	215.3%
	RMB Cents	RMB Cents	Change RMB Cents	% of change
Continuing operations				
Earnings per share				
— Basic	**61.34**	21.32	40.02	187.7%
— Diluted	**61.21**	21.29	39.92	187.5%
Continuing and discontinued operations				
Earnings per share				
— Basic	**59.98**	20.68	39.30	190.0%
— Diluted	**59.86**	20.65	39.21	189.9%
	RMB million	RMB million	Change RMB million	% of change
Continuing operations				
Adjusted EBITDA*	**21,057**	7,622	13,435	176.3%

* Definition of adjusted EBITDA is disclosed in the "Management Discussion and Analysis" Section.

	As at 31 December			
	2022 RMB'000	2021 RMB'000	Change RMB'000	% of change
Extracts of consolidated statement of financial position				
Equity attributable to owners of the Company	**42,682,274**	29,026,013	13,656,261	47.0%
Total assets	**85,564,468**	64,097,914	21,466,554	33.5%
Bank balances and cash, pledged and restricted bank and other deposits#	**10,430,194**	9,955,429	474,765	4.8%
Indebtedness##	**13,670,889**	12,979,980	690,909	5.3%
Key financial ratios				
Current ratio	**1.09**	1.23	(0.14)	(11.4)%
Quick ratio	**1.02**	1.19	(0.17)	(14.3)%
Net debt to equity attributable to owners of the Company	**7.6%**	10.4%	(2.8%)	(26.9)%

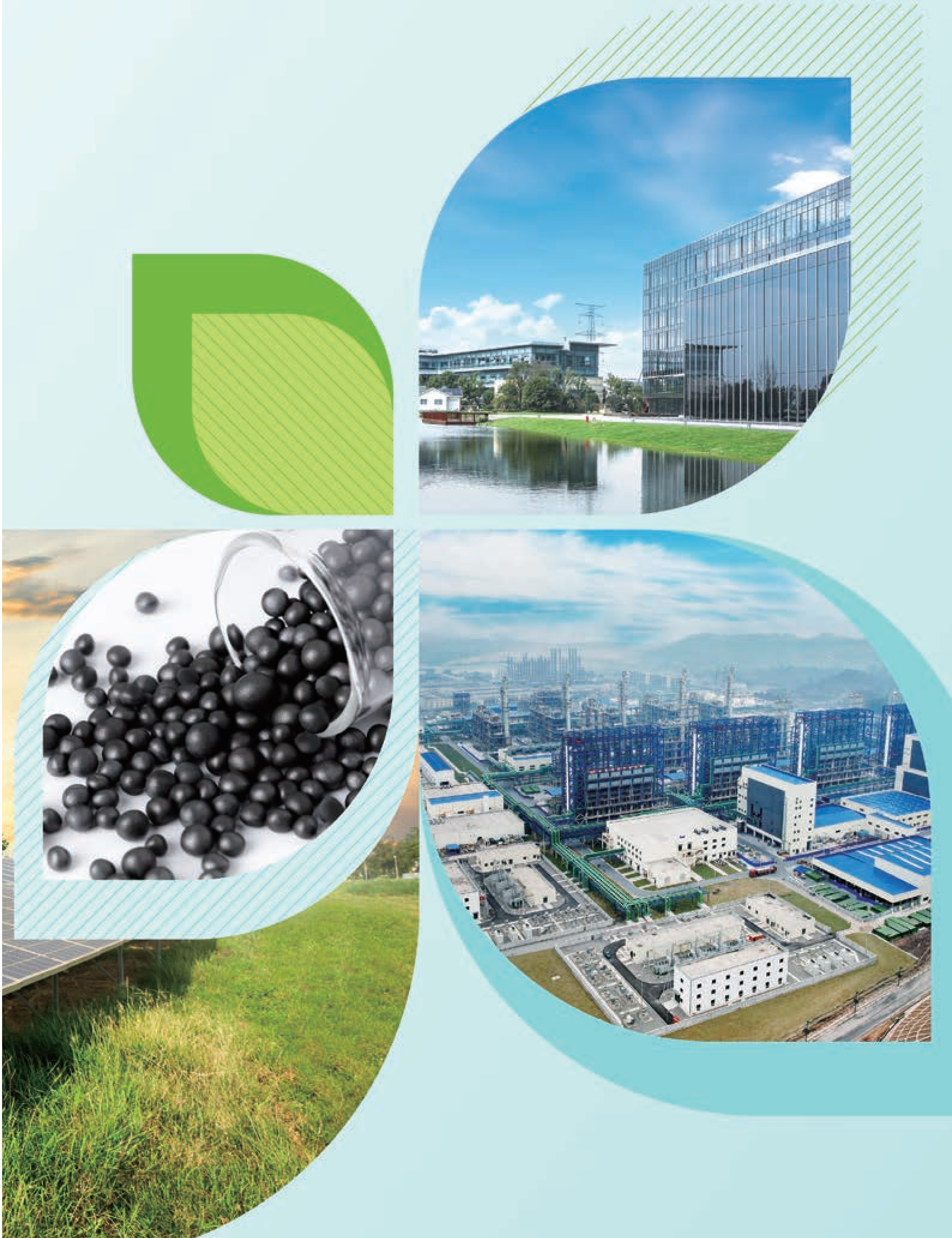
Amount includes bank balances and cash, pledged bank deposits classified as assets held for sale of Nil (2021: RMB23,000,000).

Indebtedness includes loans from related companies, bank and other borrowings, lease liabilities, notes payables and other financial liabilities.

COMPANY PROFILE

GCL Technology Holdings Limited was established in 2006 and listed on the Main Board of the Hong Kong Stock Exchange in 2007 (stock code: 3800. HK), is a constituent stock of the Hang Seng Composite Index, a constituent stock of the Hang Seng China (Hong Kong-listed) 100 Index, and a constituent stock of the MSCI China All-Stock Index of MSCI, an international authoritative index agency. The Company has operations mainly in the United States, Hong Kong, Suzhou, Xuzhou, Leshan, Baotou, Zhongwei.

Shouldering the mission of "focusing on green development and continuously improving human living environment" and as the leading R&D and manufacturer of high-efficiency solar materials in world, the Company continues to break through the key technologies of the industry, promote the progress of the industry with technologies, lead the development direction of high-efficiency solar material technology, and has maintained a technology driver position in the polysilicon industry. The fluidized bed reactor (FBR)-based granular silicon technology with independent intellectual property rights developed by the Company after ten years of hard work has multiple advantages such as low cost, high quality and low carbon footprint, setting a record for the lowest silicon carbon footprint at home and abroad, and has become a green energy to promote deep carbon control and emission reduction in the photovoltaic industry.



MAJOR EVENTS 2022

JANUARY

From 6 to 7 January, GCL Technology invited more than 40 investors from 23 institutions including Perseverance Asset Management, E Fund Management Co., Ltd., GF Fund Management Co., Ltd., Great Wall Fund Management Co., Limited and Morgan Stanley to its Xuzhou production base to visit the production and application of FBR-based granular silicon at zero distance.

FEBRUARY

On 9 February, GCL Technology (03800.HK) issued an announcement that purpose of maximizing the interests of all shareholders of the Company, the Board has initiated a feasibility study to explore the possibility of, and plan for, a listing of the Company on a stock exchange in the mainland of the People's Republic of China, including the manner by which such listing can be achieved, timing and any offering plans.

On 18 February, Hang Seng Indexes Company Limited announced its quarterly review results for the fourth quarter of 2021, GCL Technology (03800.HK) was re-listed in the Hang Seng Index. The number of constituent stocks in the Hang Seng Composite Index increased from 500 to 517.

On 21 February, GCL Technology issued an announcement that in order to fully focus on the main business of silicon material technology and return to technological innovation attributes, the Board proposes to change its Chinese name from "保利協鑫能源控股有限公司" to "協鑫科技控股有限公司" and change its English name from "GCL-Poly Energy Holdings Limited" to "GCL Technology Holdings Limited".

MARCH

On March 6, all equipment of 20,000-tonne FBR-based granular silicon modularization project of GCL Technology's subsidiary Jiangsu Zhongneng have put into production, marking the official realization of the Company's granular silicon annual effective production capacity of 30,000 tonnes.

On 21 March, the Jiangsu Federation of Trade Unions (江蘇省總工會) announced the recommended people in the province of the 2022 National May First Labour Medal and the Pioneers of National Workers and Zhang Huali (張華利), the manager of the R&D Technology Department of Jiangsu GCL Silicon Material Technology Development Co., Ltd. (江蘇協鑫硅材料科技發展有限公司), a subsidiary of GCL Technology, was on the list. This is the first individual award after winning the Pioneers of National Workers by Yangzhou and Suzhou bases.

APRIL

On 1 April, GCL Technology held the 2022 extraordinary general meeting in Hong Kong, and the two resolutions in relation to the change of Company name and new share option scheme were passed with a majority of votes.

On 8 April, the Industry and Information Technology Department of Jiangsu issued the "Notice on Announcement of the List of Intelligent Manufacturing Demonstration Factories in Jiangsu Province in 2022 (《關於公佈2022 年江蘇省智能製造示範工廠名單的通知》)", introducing a number of intelligent manufacturing demonstration factories in various manufacturing sectors. Silicon Material Kyropoulos Slice Intelligent Manufacturing Factory of Jiangsu GCL Silicon Material Technology Development Co., Ltd.* (江蘇協鑫硅材料科技發展有限公司硅材料長晶切片智能製造工廠) was on the list.

On 19 April, GCL Technology issued an announcement that the Company had completed the change of Company name in the Cayman Islands, the Company's Chinese name was changed from "保利協鑫能源控股有限公司" to "協鑫科技控股有限公司", and the English name was changed from "GCL-Poly Energy Holdings Limited" to "GCL Technology Holdings Limited", the change has officially taken effect on 1 April 2022. At the same time, the Companies Registry in Hong Kong has confirmed the above changes. On 25 April, this indicates that the stock short name of the Shares of the Company will be changed from "GCL-POLY ENERGY" to "GCL TECH" in English and from "保利協鑫能源" to "協鑫科技" in Chinese.

On 19 April, GCL Technology issued an announcement that the Company, Golden Concord Group Limited, TCL Technology Group Corporation and Tianjin Zhonghuan Semiconductor Co., Ltd. entered into a cooperation framework agreement. The parties will implement the production project of approximately 100,000 tons of granular silicon and comprehensive utilization of silicon-based materials and downstream applications research and development projects.

On the morning of 29 April, GCL Technology held a mobilization meeting for Inner Mongolia regional headquarter construction to deploy key tasks for regional headquarter construction. Joint CEO Lan Tianshi attended the meeting and made a mobilization speech, and all employees of GCL Technology Management Center (協鑫科技管理中心) in different regions attended the meeting by video. In order to rapidly promote the progress of the integrated development and construction of GCL Technology in Hohhot, Baotou and Ordos in Inner Mongolia, GCL Technology quickly integrated resources and improved organizational and management efficiency to establish the Inner Mongolia regional headquarter in accordance with the principle of organizational change of "decentralization, empowerment of front-line, and serving the base".

MAY

On 13 May, the ceremony of signing of the strategic cooperation framework agreement between GCL Technology and Inner Mongolia Vocational College of Chemical Engineering and the opening of "GCL Technology New Energy Industry College (協鑫科技新能源產業學院)" was held in Hohhot. The parties will focus on the four main directions of "collaborative education, collaborative innovation, collaborative services and co-construction of resource pool" to carry out in-depth cooperation, and jointly establish the "GCL Technology New Energy Industry College (協鑫科技新能源產業學院)".

On 23 May, GCL Technology announced the "Issue of A Shares" method for the first time. The Company is considering and exploring the feasibility of the issue of ordinary shares of the Company to be traded in Renminbi and listed on a stock exchange in the PRC (the Proposed Issue of A Shares). The Board considers that the Proposed Issue of A Shares will offer an alternative solution for the Company to meet its capital requirement and accelerate the development of the Company, which in turn facilitate a sustainable growth of returns for the Shareholders.

On 31 May, GCL Technology released its 2021 ESG report, which elaborated the Company's significant achievements in environment-friendly aspect, technology research and development, providing equal and diversified employment opportunities for employees, human capital development, optimizing the composition of the Board, and sustainable development performance assessment.

JUNE

On 12 June, the core equipment of the Inner Mongolia Xin Yuan granular silicon project T-601A02c silane reaction tower was successfully installed in one time, which took nearly 1 hour.

On 16 June, GCL Technology's subsidiary Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd.* (江蘇中能硅業科技發展有限公司) held a commissioning ceremony of an additional 30,000 tonnes of FBR granular silicon production capacity. The senior management of GCL Technology, such as the Chairman of the Board Zhu Gongshan, the Vice Chairman of the Board and Joint CEO Zhu Zhanjun, and Joint CEO Lan Tianshi, attended the ribbon-cutting ceremony. The additional 30,000 tonnes project in Xuzhou started construction on 26 October 2021, and the project was successfully put into operation in only eight months. Combined with the 30,000 tonnes project that has been fully put into operation at the Xuzhou base before, the FBR granular silicon production capacity has officially entered the "6.0 era".

On 24 June, the market value of GCL Technology exceeded the HKD100 billion.

On 30 June, the Xuzhou Municipal Party Committee (徐州市委) and Xuzhou Municipal Government (徐州市政府) solemnly commended the 2022 Xuzhou Model Workers, and Lan Tianshi, Joint CEO of GCL Technology and general manager of Jiangsu Zhongneng, was awarded the honorable title of "Xuzhou Model Worker (徐州市勞動模範)".

JULY

On 15 July, the annual investment event in Sichuan Province - the Active Season for Well-known Chinese and Foreign Enterprises' Visit to Sichuan 2022 (2022中外知名企業四川行活動季) began. Well-known Chinese and Foreign Enterprises' Visit to Sichuan 2022 Investment Promotion Conference and Launch Event on Opportunities List for Investing in Sichuan was held in Chengdu. Zhu Gongshan, Chairman of the Group, was invited to attend the event as a representative of well-known Chinese and foreign enterprises invested in Sichuan, and the Chengdu carbon neutrality headquarter project of the Group was signed in Chengdu.

On 18 July, Ningxia GCL Monocrystalline Silicon Technology Development Co., Ltd. (寧夏協鑫晶體科技發展有限公司) held a project commencement ceremony with the presence of the Zhongwei Municipal People's Government, marking the official start of the Ningxia GCL Photovoltaic 5GW Granular Silicon N Type Monosilicon Demonstration Project.

On the morning of 22 July, the first device production line of the GCL Technology Leshan 100,000-ton Granular Silicon Project was officially put into operation. GCL Technology added new greenery to "China Green Silicon Valley" in Leshan and injected surging power to China's silicon energy industry again.

On 25 July, more than 100 guest representatives from nearly 100 securities companies and fund institutions such as Greenwoods Asset Management, Perseverance Asset Management, TF Securities, Sinolink Securities, China Merchants Securities, China Securities came to GCL Technology Leshan's 100,000-ton granular silicon R&D and production base, paying zero-distance visits to the production site, face-to-face exchanges with the Company's senior management, and initiated the research and study on the successful operation of GCL Technology's first 100,000-ton granular silicon modular monomer project.

On 28 July, GCL Technology's 2022 semi-annual economic work meeting and Environmental, Health and Safety (EHS) Committee meeting was held in Xuzhou, Jiangsu Province. Focusing on the main topic and the main business, the meeting faced quality defects, pointed to the shortcomings of the industry, checked the crux of the work, responding to market concerns and the industrial vision of sustainable and high-quality development for GCL Technology and enhanced the core competitiveness and brand influence of GCL Technology, looked into the causes, asked for advices and explored the path by brainstorming to realize.

AUGUST

On 13 August, GCL Technology's first global recruitment Open Day of Management trainees interview opened with enthusiasm in Suzhou GCL Energy Center. 68 outstanding masters and doctors graduates from the colleges of domestic Project 985 and overseas QS top 50 colleges gathered in the Suzhou office of the Group with zero-distance visiting to the corporate cultural environment and face-to-face interaction with interviewers, showing impromptu thinking, taking on-site quiz, improvising their skills. The participants all enjoyed GCL culture, GCL efficiency, and GCL experience with warmth.

On 25 August, TCL&GCL Hohhot 10,000 tons of electronic grade polysilicon and 100,000 tons of granular silicon project commencement ceremony was held in Hohhot City, Inner Mongolia.

On 26 August, the unveiling ceremony of the granular silicon and supporting industry integration project headquarters of Inner Mongolia GCL Dongli Silicon Material Technology Development Co., Ltd. (內蒙古協鑫東立硅材料科技發展有限公司) was held in Wuda District.

SEPTEMBER

On 6 September, Jinhong Gas (688106.SH) issued an announcement, stating that the company recently reached a strategic cooperation intention with GCL Technology's Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd. (江蘇中能硅業科技發展有限公司) (hereinafter referred to as "Jiangsu Zhongneng") and signed the "Strategic Cooperation Framework Agreement". According to the agreement, Jiangsu Zhongneng is responsible for the production and filling of silane gas that meets the technical specifications and quality agreed by both parties; Jinhong Gas makes full use of its own industry resources, international sales channels, and other advantageous resources to purchase silane gas from Party A. Both parties shall comply with the specific silane gas sales agreement.

On 7 September, the Cyberspace Administration of China (國家互聯網信息辦公室) released the public list of typical cases of digital green collaborative transformation and development of digital technology enterprises in 2022 (2022年度數字科技企業數字化綠色化協同轉型發展典型案例). The "Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd. Digital FBR-based Granular Silicon Low Carbon Production Technology Case (江蘇中能硅業科技發展有限公司數字化硅烷流化床法低碳生產技術案例)" filed by GCL Technology was listed. It is reported that a total of 50 companies in the country were selected in this selection, of which 10 companies in Jiangsu Province were selected, and the Jiangsu Zhongneng case filed by GCL Technology represented the only photovoltaic industry in Jiangsu.

On 23 September, in the 2022 Sina Finance Overseas Investment Summit and the Selection Event of the Best Listed Companies in Hong Kong and U.S. (2022年金麒麟海外投資峰會暨港美股最佳上市公司評選活動), GCL Technology won the "2022 Sina Finance Listed Company in Hong Kong and U.S. with the Most Growth Potential (2022新浪財經港美股最具成長潛力上市公司) " by virtue of its scientific and technological innovation and industry contributions in the field of photovoltaic materials. Mr. Zhu Gongshan, Chairman of Board of GCL Technology, was awarded the title of "2022 Sina Finance Entrepreneur of Listed Company in Hong Kong and U.S. with the Best Leadership (2022新浪財經港美股最具領導力企業家) ", and 9 outstanding entrepreneurs including Cao Dewang and Wang Chuanfu were awarded the title.

On 27 September, the commencement ceremony of the first phase of GCL Dongli project with an annual output of 100,000 tonnes of granular silicon and 150,000 tonnes of nano silicon was held in Wuhai, Inner Mongolia.

On 28 September, People's Daily published an in-depth report on "China's photovoltaic industry has achieved leapfrog development (中國光伏產業實現跨越式發展) ", and the official WeChat account of the National Energy Administration immediately reproduced the article. So far, the article about GCL FBR Granular Silicon has been released authoritatively on the official platform of the National Energy Administration for the third time. With the excellent performance of the Carbon Road Pioneer, it represents a tribute to the 20th CPC National Congress!

OCTOBER

On 11 October, Science and Technology Bureau of Xuzhou City (徐州市科技局) sent good news that seven enterprises in Xuzhou were successfully selected into the "New Round of Innovative Leading Enterprise Incubator in Jiangsu Province (江蘇省新一輪創新型領軍企業培育庫)", and Jiangsu GCL Silicon Material Technology Development Co., Ltd. (江蘇協鑫硅材料科技發展有限公司) has been among them.

On 12 October, GCL Technology issued an announcement that the board of directors of the Company had approved the preliminary proposal to issue A shares. The GCL Technology A-share listing intermediary team consisted of CICC, Grandall Law Firm and KPMG. It is currently providing support for GCL Technology's "Issue of A Shares".

On 17 October, on the occasion of the 20th CPC National Congress, the commencement ceremony of the first "Star Project" global management trainees project (「星光計劃」全球管培生項目) launched by GCL Technology in 2022 and the opening ceremony of the training camp were held in the lecture hall of GCL University in Taicang Port.

On 20 October, the 50th issue of Deshengmen Lecture Hall (德勝門大講堂) with the theme of "learning and implementing the spirit of the 20th CPC National Congress, and jointly building the dream of building a strong country with intelligent manufacturing (學習貫徹二十大精神,共築智造強國夢)" started online recording. Lan Tianshi, joint CEO of GCL Technology, as a member of the Bureau of the National Equipment Manufacturing Committee, presented on behalf of GCL Technology and gave a key-note speech "Planning for a Double Carbon Track and Leading the Green Zero-Carbon Development in the Life Cycle of the Photovoltaic Industry (謀局「雙碳」賽道引領光伏產業全生命週期綠色零碳發展)".

On 25 October, after the first 20,000-tonne module of GCL Leshan Granular Silicon Base was put into operation, the second 20,000-tonne module has also achieved full production. With the production capacity matrix of Xuzhou 60,000-tonne base, GCL Technology FBR Granular Silicon has a total production capacity of 100,000 tonnes. The data shows that the output of FBR granular silicon accounts for 10.3% of the effective supply of polysilicon in China.

NOVEMBER

On 5 November, the fifth China International Import Expo (第五屆中國國際進口博覽會) opened at the National Exhibition and Convention Center(Shanghai). Among the global enterprises participating in the exhibition, the "Black Technology" matrix led by GCL Technology was especially striking: FBR granular silicon, large-scale perovskite, electronic grade polysilicon, large semiconductor wafers, cathode materials -"Five Great Vajras (五大金剛) " group appeared at the Expo, becoming the only new energy high-tech materials R&D and manufacturing enterprises invited to participate in the exhibition in the industry.

On 10 November, the first device production line of the Inner Mongolia Xinyuan Granular Silicon Project with an annual output of 100,000 tonnes was successfully debugged. After 278 days and nights of hard work, the impossible became possible, writing the new GCL struggle story in the magical 40 degrees north latitude.

From November 14 to 15, joint CEO of GCL Technology, Lan Tianshi, together with a team of nearly 20 GCL executives visited Huawei Technologies Co., Ltd., the world's leading ICT (information and communication technology) infrastructure and smart terminals provider, in Guangdong.

On November 16, the "Presentation Ceremony of OFweek 2022 (13th) Solar Photovoltaic Industry Conference and Photovoltaic Industry Annual Award (OFweek 2022(第十三屆)太陽能光伏產業大會暨光伏行業年度頒獎典禮) " hosted by OFweek, a high-tech industry portal, was held in Shenzhen. After fierce competition, GCL Technology won the award of "Excellent Photovoltaic Materials Vendor of the Year (年度卓越光伏材料商) ".

On 25 November, Ningxia GCL Monocrystalline Silicon Technology Development Co., Ltd. (寧夏協鑫晶體科技發展有限公司) held the first furnace operation ceremony of the Ningxia GCL Photovoltaic 5GW Granular Silicon N Type monocrystalline Demonstration Project.

On 28 November, GCL's management reform and digital transformation training began in Xuzhou. Huawei's chief consulting expert gave an on-site lecture. Lan Tianshi, the joint CEO of GCL Technology, attended the event and requested to take the initiative to learn with an "empty cup mentality (空杯心態)" humility and reflect on the "GCL Live (協鑫實況) ", so as to effectively transform the "Huawei experience (華為經驗)" into a continuous driving force for GCL's future development.

After the market closed on 30 November, the adjusted MSCI index officially came into effect, and GCL Technology became the selected representative of China's photovoltaic materials companies.

DECEMBER

On 14 December, Kunshan GCL Optoelectronic Material Co., Ltd. (昆山協鑫光電材料有限公司) completed a B+ round of financing of RMB 500 million. Temasek Investment, Sequoia China, IDG Capital jointly led the investment, Longwater Investment and other institutions followed the investment. The major shareholder GCL Technology continued to increase the investment, and Lighthouse Capital acted as the sole financial adviser. This round of financing will be used to improve the process and equipment development of GCL Optoelectronics 100 MW large-size perovskite module production line.

On 21 December, the intelligent transformation and upgrading work of GCL Technology's Jiangsu GCL Silicon Material Technology Development Co., Ltd. (江蘇協鑫硅材料科技發展有限公司) has yielded fruitful results. The company's monocrystalline wafer intelligent manufacturing workshop successfully passed the announcement period of the Industry and Information Technology Department of Jiangsu (江蘇省工業信息化廳), and was successfully selected in 2022 as the Intelligent Manufacturing Demonstration Workshop of Jiangsu Province (江蘇省智能製造示範車間).

On 24 December, the Jiangsu Provincial Committee of the Communist Party of China and the Jiangsu Provincial People's Government issued the "Decision on Commending the" Jiangsu Manufacturing Outstanding Contribution Award "for Advanced Individuals and Advanced Units of Excellent Enterprises (關於表彰「江蘇製造突出貢獻獎」優秀企業先進個人和先進單位的決定) ", commending 50 outstanding enterprises, 48 advanced individuals and 50 advanced units in the province. Among them, Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd. was ranked as an excellent enterprise.

On 27 December, the first module of 20,000-metric tonne of Phase 1 100,000-metric tonne granular silicon production base of Inner Mongolia Xin Yuan Silicon Material Technology Co., Ltd. (內蒙古鑫元硅材料科技有限公司) has been officially put into production, and its ancillary production capacity of 150,000-metric tonne nano-silicon was concurrently producing qualified products, with their production material consumption and product quality both meeting the project design standards. After Xuzhou, Jiangsu and Leshan, Sichuan, GCL Technology FBR granular silicon R&D and manufacturing entered the "situation of tripartite confrontation (三足鼎立) " era.

On 29 December, the comprehensive evaluation results of the 2022 China Nonferrous Metals Industry Science and Technology Award (2022年度中國有色金屬工業科學技術獎) were announced. Jiangsu Zhongneng Polysilicon Industry Technology Development Co., Ltd. won the first prize of China Nonferrous Metals Industry Science and Technology Award with the "FBR Granular Silicon Large-scale Low-Carbon Production Technology (硅烷流化床顆粒硅規模化低碳生產技術) ".

Zhu Gongshan

Chairman

Since the industrial revolution, the world economic development has been highly dependent on oil, coal and other fossil fuels. The resources are relentlessly consumed and on the verge of scarcity. The earth ecosystem and human living environment have been under constant pressure, which has led to a series of problems such as intensified geopolitical conflicts and frequent global extreme climate events, seriously threatening the sustainable development of human society. Breaking through the resources bottleneck and promoting the new "industrial revolution" with the "energy revolution" has become the primary task for mankind. Therefore, it is urgent to vigorously develop clean and renewable energy, continuously improve energy supply, and continuously reduce emissions and carbon.

In recent years, the non-renewable resources consumption has led to weak total energy growth[1], but the installed capacity of clean energy, represented by photovoltaics, continues to grow at a high speed, and becomes the dominant incremental energy supply. In 2022, the global new installed photovoltaics capacity was 255GW, up 40% year-on-year[2], and the global annual compound growth rate of photovoltaic installed capacity reached 23% in 2013-2022. Among them, China contributed 87.4GW of newly installed capacity, accounting for 39%[3] of total, with a year-on-year increase of 59.3%[4] and a 10-year compound growth rate of 26%. In 2023, the global newly installed photovoltaic capacity is expected to exceed 400GW, of

1 "BP Statistical Review of World Energy (2021 Edition)" saw a 10-year annual compound growth of 1.9% in disposable energy consumption in 2009-2019, and the negative growth in 2020 due to the pandemic was not included in the statistical scope.

2 Bloomberg "1Q 2023 Global PV Market Outlook"

3 According to the Analysis and Forecast Report on the 2023 National Power Supply and Demand Situation by China Electricity Council, the 2022 newly installed power generation capacity in China was 200 million kW.

4 National Energy Administration and CPIA

which China is forecast to be over 120GW, an expected increase of more than 40%. Under the background of extreme climate change and the long-term governments' strategic support for new energy installations, we predict that by 2030, the annual new installed photovoltaic capacity will reach 1 Terawatt level.

Major economies are stepping up the formulation and implementation of carbon border trade policies, and low-carbon emission requirements will become the new international trade rule in the future. In February 2023, the European Union formally adopted the Carbon Border Adjustment Mechanism (CBAM), and will impose "carbon tariffs" on products in six major fields including electricity in 2026. In 2022, the Clean Competition Act (CCA) was submitted to the Congress of the United States, which proposed that the US should adjust its carbon border on energy-intensive imported products from 2024, and also encouraged the decarbonisation of American manufacturing industry. In the future, international carbon tariffs will become the core component of the world trade system, which will undoubtedly lead to the further increase of the traditional energy generation cost. Therefore, it is the only way for enterprises who want to lock in future competitive advantages to gain footprint in green manufacturing and build an internationally recognized "zero-carbon factory".

At present, global trade disputes are intensifying. Some countries and regions, such as India and the United States, have successively adopted trade protection and industrial support policies, trying to establish and improve their domestic manufacturing systems and reduce their dependence on China's photovoltaic capacity. India has announced a new round of Production Linked Incentive (PLI) Scheme to develop 65GW capacity in India through financial incentives. The United States has successively introduced a series of trade protection measures and political means, such as anti-dumping of photovoltaic products, Sections 201 and 301, in an effort to restrict and suppress the photovoltaic products export of China. Meanwhile, the United States passed the Inflation Reduction Act (IRA), which provided a series of tax and subsidy measures on both the supply and demand sides of photovoltaics, including the manufacturing tax credit for solar photovoltaic materials at the photovoltaic manufacturing end, and increasing the proportion and duration of tax credit to stimulate local photovoltaic demand, attract photovoltaic enterprises to set up factories in the United States, and help them rebuild the local photovoltaic industry chain. Recently, the European Commission announced the Green Deal Industrial Plan (GDIP), which plans to optimize the regulatory environment, financing channels, industrial skills and trade openness of the EU photovoltaic industry in order to achieve a more flexible supply chain. The governments' promotion of the photovoltaic supply chain localization is not only a challenge but also a new opportunity to broaden the international market for China photovoltaic enterprises with global leading technological advantages. Therefore, it is an important task and a severe challenge for China photovoltaic enterprises to steadily accelerate the strategic layout of overseas production capacity, broaden overseas financing channels, establish dialogues with global capital markets, and accelerate the absorption and training of international talents.

BUSINESS REVIEW FOR 2022

In 2022, GCL Technology produced a total of 104,723 MT of polysilicon (excluding the output of associate companies) and 46.66 GW of monocrystalline silicon, up 120% and 22.4% year-on-year. For the year ended 31 December 2022, the Company recorded revenue from continuing operations of RMB35,930 million, an increase of 113.0% compared with the corresponding period in 2021; the gross profit was approximately RMB17,496 million, an increase of 213.9% compared with the corresponding period in 2021. The profit attributable to owners of the Company from both continuing operations and discontinued operations was approximately RMB16,030 million, and the basic earnings per share was approximately RMB59.98 cents. The Board recommended the payment of a final dividend of HK$0.06 per share for the year ended 31 December 2022, resulting in a total distributed profit of HK$1,593 million[5].

GCL TECHNOLOGY REDUCED ITS SHAREHOLDING IN GCL NEW ENERGY TO MAXIMIZE ITS LONG-TERM VALUE

In the whole photovoltaic industry chain, GCL Technology continues to take the lead by virtue of technological innovation. However, as the GCL New Energy achieved its light-asset strategy transformation, GCL Technology gradually changed from the downstream business alone of the photovoltaic industry chain to other diversified clean energy businesses. The operational and financial synergy between the two companies gradually weakened.

Considering the overall development sustainability and shareholders' returns, the Group aims to concentrate on strengthening resources to develop the core business of polysilicon materials, create long-term value for shareholders, make the photovoltaic upstream business structure more clear, prominent and competitive, enhance the investment attraction and truly leverage the value of the stock market. As such, GCL Technology completed the distribution of GCL New Energy ordinary shares by way of distribution in specie ("**DIS Shares**") to qualified shareholders on 29 September 2022, and the Group's shareholding in GCL New Energy decreased from 44.44% to 7.44%. As GCL New Energy is no longer included in the Group's consolidated statements, the Group had an enhanced transparency in financial position, which will help the capital market to re-evaluate the GCL Technology's growth potential and profitability, and assist the Group to better play its inherent long-term potential and maximize its long-term value.

[5] Subject to the approval of the shareholders at the forthcoming annual general meeting of the Company.

OPENNESS AND WIN-WIN COOPERATION TO BUILD A NEW PHOTOVOLTAIC INDUSTRY ECOSYSTEM

With the continuous iteration of photovoltaic technology, the standardized production technology has gradually led to homogeneous industry competition, and many enterprises have adopted integrated strategies to maintain their competitive advantages. However, the Company has adopted a unique way to focus on breaking the industry bottleneck, promoting differentiated competition with technological progress, and building an open industrial ecosystem with an open, cooperation and win-win attitude. Following the deep cooperation of Baotou granular silicon project with industry and capital players, the Company joined hands with its joint ventures Xinhua Semiconductor, TCL Technology and Tianjin Zhonghuan Semiconductor in April 2022 to build a production base of 100,000 tons of granular silicon and 10,000 tons of semiconductor-grade polysilicon in Hohhot, to jointly explore a new cooperation mode and collaborate to build a new photovoltaic industry ecosystem.

EXPLORING THE NEW TECHNOLOGY DIRECTION, AND EMPOWERING "GCL TECHNOLOGY" WITH INNOVATIVE TECHNOLOGY

Technology is the "first energy". GCL Technology has continuously broken through key technologies in the industry, and promoted the industry progress with technology. In 2022, the Company continued to strengthen its technology gene, took technology industrialization as the main theme, improved the technology management system, cultivated technological talents, explored new technology directions, increased investment in technology research, and realized technological fission:

In 2022, the Company invested RMB1.686 billion in R&D, up 61.99% year-on-year, accounting for 4.69% of the annual revenue. In 2022, the Company filed 139 new patent applications, including 41 invention patents; and obtained 108 authorized patents, including 3 invention patents.

Since the start of the polysilicon project, the Company is based on its own products and technology, actively participates in the establishment of various silicon material standards. Since 2013, the Company has led and participated in the formulation of 39 standards, of which the Company led and participated in the formulation of 3 and 3 SEMI international standards respectively; led and participated in the formulation of 7 and 15 national standards respectively; led and participated in the formulation of 2 and 4 industry standards respectively; led and participated in the formulation of 3 and 2 group standards respectively. The Company has become a veritable principal maker of polysilicon industry standards. In 2022, the Company led the formulation of 1 national standard, which has been approved and will be released soon. The 4 industry standards the Company led in formulation have also been completed, and are expected to be examined and approved by the end of 2023.

On 29 December 2022, the "FBR-based Granular Silicon Large-Scale Low-Carbon Production Technology (硅烷流化床顆粒硅規模化低碳生產技術)" of the Company won the First Prize of China Non-ferrous Metals Industry Science and Technology Award (中國有色金屬工業科學技術一等獎). As a leading technology of cutting-edge silicon-based materials in the world, FBR-based granular silicon has been officially listed as the key task of advanced technology in the "14th Five-Year Plan for Scientific and Technological Innovation in the Energy Sector (《「十四五」能源領域科技創新規劃》)" issued by the Ministry of Science and Technology and the National Energy Administration with clear recognition and authoritative certification from the national level in the form of policy planning documents.

The granular silicon technology application demonstration project is a key measure for GCL Technology to lead the photovoltaic industry innovation and technological revolution, plays an important role in the GCL Technology transformation and upgrading and strongly enhances its competitiveness. On the basis of Xuzhou Photovoltaic 5GW granular silicon monosilicon application demonstration project, the Company newly started Ningxia GCL Photovoltaic 5GW granular silicon N-type monosilicon demonstration project, which was successfully put into production on 25 November 2022, marking the arrival of the mass production era of successful granular silicon application on N-type products. In fact, the Company has been continuously developing and breaking through key technologies in recent years, such as "CCZ+ granular silicon application + N-type + large-size slicing", around the downstream application scenarios and industrial granular silicon ecosystem.

The large-scale granular silicon application in demonstration projects has brought significant cost and quality advantages. Practice has proved that granular silicon products have good fluidity, and can perfectly replace monosilicon feeding. Meanwhile, the granular silicon morphology is better than that of monosilicon feeding, as the particles with a size of about 2mm have good fluidity. At the same time, granular materials also have many advantages, such as large single feeding amount, high melting efficiency, no crushing and low impurities. Due to the excellent quality and matching appearance and performance of granular silicon, it has brought cost advantages to crystal pulling production in the production of application demonstration projects, and the comprehensive cost of granular silicon wafer products takes the lead in the industry. At present, the granular silicon application demonstration project has been equal in the unit yield and electrochemical performance to that of first-class rod silicon, and can have more excellent performance in electrochemical performance in the future.

GCL Technology has always adhered to the innovative R&D concept of "one generation in production, one generation in R&D, one generation in reserve and one generation in nurture", quickly realized the landing of granular silicon production capacity, and accelerated the research and development of a new generation of granular silicon technology, research and development reserves of CCZ and other new technologies and exploration of perovskite and other cutting-edge technological directions.

Jiangsu Xinhua Semiconductor Technology Co., Ltd. (Xinhua Semiconductor), jointly initiated by the Group and the China Integrated Circuit Industry Investment Fund (CICF) Co., Ltd., has become the largest domestic electronic-grade polysilicon manufacturer for semiconductor industry. The electronic-grade polysilicon for large-scale integrated circuits has broken the foreign technology and markets monopoly and filled the gap in the domestic industry. As the leading unit, the Company participated in the revision of the national electronic-grade polysilicon standard.

CCZ technology independently developed by the Company (namely continuous Czochralski monosilicon technology) further optimizes the application scenario with granular silicon as raw material, bringing more rapid progress space for monosilicon production. It is characterized by simultaneous feeding - melting - crystal pulling in a monosilicon furnace, which can save time for the cooling and feeding of crystal rods. At present, the GCL CCZ monosilicon crystal pulling furnace can reach the yield of 185kg/d (kg/day), and has realized the pilot production capacity of 200MW (megawatts). With the large-scale promotion of N-type monosilicon and large-diameter monosilicon, CCZ will show more prominent technical advantages.

The new generation of photovoltaic perovskite solar cells is considered as one of the most promising solar cell technologies in the future because of its advantages of higher theoretical conversion efficiency, faster iteration speed, short process flow, low raw material cost and lower production energy consumption. Currently, the perovskite module of 1m x 2m produced by Kunshan GCL Optoelectronic Material Co., Ltd (昆山協鑫光電材料有限公司 GCL Optoelectronic), a subsidiary of GCL Technology, which is the largest-size product of its kind in the world has commenced production, therefore, the Company has a comprehensive R&D and production capability of large size components. The photoelectric conversion efficiency of its largest-size perovskite module has reached 16% and is expected to exceed 18% by the end of 2023. On 18 January 2023, GCL Optoelectronic obtained the 3C certification of perovskite module BIPV photovoltaic glass issued by China Quality Certification Center (CQC), which took an important step to explore the domestic building photovoltaic market. The certified unit products submitted by the Company have successfully passed the tests of moisture resistance, heat resistance, radiation resistance, falling ball impact peeling performance, shotgun impact performance, etc., and successfully obtained the 3C certification, which indicates that the new perovskite module products developed by GCL Optoelectronic for BIPV (Building Integrated Photovoltaics) market have obtained the "passport" to enter the China market.

FULL DIGITALIZATION PROMOTION LEADS TO GORGEOUS "DIGITAL GCL" TRANSFORMATION

The Company's key project bases make full use of the innovative achievements of industrial interconnection, intelligent manufacturing and digital twin, deepen the production system digitalization, provide accurate, timely and reliable data support for production process, technology and quality optimization, reduce management costs and improve production efficiency. Relying on Xuzhou Digital Center, the granular silicon project makes use of the automatic, intelligent and intensive central control system, cloud big data platform, the whole-chain mass data intelligent analysis and application, enables advanced technologies of Industry 4.0 such as AR Hawkeye system, thermal imaging inspection system and unmanned aerial vehicle system to release their potential, remotely controls all core bases in Sichuan, Inner Mongolia and other areas, promotes rapid granular silicon modular replication, and realizes strategic goal modeling, business value modeling, process system modularization and digital production and operation. Many subsidiaries of the Company have been listed as "Intelligent Demonstration Factory" and "Industrial Internet Benchmark Factory" at or above the provincial level for several times, and their demonstration and leading role in the industry has been increasing day by day.

GCL Technology embeds digital transformation into business management, realizes collaborative management and control of core business processes such as R&D, production, supply chain, sales and finance, improves lean management, reduces operating costs, and effectively provides data analysis and decision-making support for various business management. The Company has built digitalized headquarters, and established four mobile applications, namely, fund analysis, financial analysis, expense analysis and talent portrait. By managing the cockpit, the Company has realized all-round control of penetrating management and progressive analysis. The Company uses the big data platform for business modeling, strengthens data sharing, consolidates the data base, strengthens the analysis and mining of various business management and production data, establishes a benchmarking management with upstream and downstream enterprises in the industry, realize the asset digitalization and digital capitalization, and promote the gradual transformation and upgrading of GCL Technology from real economy to digital economy.

PRACTICING GREEN MANUFACTURING TO LEAD THE GREEN INDUSTRY DEVELOPMENT WITH A "GREEN GCL"

Photovoltaic products are amplifiers of electric energy, and the energy consumption of product manufacturing is the fulcrum of amplifying photovoltaic power generation. Polycrystalline silicon is the "major consumer" of electricity in photovoltaic manufacturing. To control and reduce production energy consumption scientifically and effectively will serve as a fulcrum to incite the green industry development. In 2022, the average comprehensive power consumption of polysilicon industry was 60kWh/kg-Si, the average steam consumption was 15.0kg/kg-Si, and the per capita output was 58 tons/(person-year)[6]. At present, the Company is leading in the industry in all the data of Siemens rod-shaped silicon. The comprehensive power consumption of granular silicon has been optimized to 13.8 kWh/kg-Si, the steam consumption to 15.3 kg/kg-Si, and the per capita output to 133 tons/(person-year). According to the 2022 granular silicon output of 45,599 metric tons, the Company can save 2.1 billion kWh of electricity for China and reduce 1.18 million tons[7] of carbon emissions for the industry.

While continuously promoting energy conservation and emission reduction in the value chain, the Company also continuously improves and optimizes its own environmental performance. The subsidiaries have obtained a number of green and low-carbon certifications. Suzhou GCL passed the certification of Jiangsu Provincial Green Factory. Through steam reuse, Baotou factory significantly reduced energy consumption in the production process and effectively saved energy resources. Leshan GCL not only produced raw materials for green photovoltaic products, but also used 100% clean energy in the production process, and obtained the Clean Energy Consumption Certificate issued by Sichuan Electric Power Trading Center, which further enhanced GCL's green production influence in the industry.

6 China Photovoltaic Industry Development Roadmap (2022-2023).

7 The emission intensity of unit power generation in China is 0.558kg/kWh, data source: "Annual Development Report of National Electric Power Industry 2022".

Facing the future global market, the carbon footprint certification system has been continuously improved in all links of the photovoltaic industry chain, and the application of low-carbon products has opened up a new competition track for module products. In July 2022, the large-size PERC module produced with granular silicon has been certified by a French organisation in carbon footprint, with an average carbon footprint of 400-450 kg CO2/kW, which is approximately 10%-20% lower than that of the same model module products without granular silicon, and has obvious low-carbon advantages. The wide application of granular silicon will help the Company's customers to explore the national and regional markets around the globe that focus on carbon footprint, and obtain obvious market benefits. As the only raw material product that helps measure the carbon emission rights of the photovoltaic industry chain, the low-carbon property of granular silicon is a key link to optimize the full-scale carbon emission measurement of the photovoltaic industry, and also the core technology for the photovoltaic industry to implement technical carbon reduction. It is conducive for enterprises to establish a carbon price risk response mechanism, cope with the overall operating costs due to the rising carbon price costs, and fully empower customers.

ADVANCING MANAGEMENT REFORM TO OPTIMIZE HUMAN RESOURCE MANAGEMENT EFFICIENCY

Talent is the primary task and top priority of GCL Technology. In the new cycle, the Company will make great efforts to optimize the organizational structure, and continue to strengthen the human resources system construction, optimize the human resources management efficiency and improve the return on human capital investment, focusing on "talent management, value distribution, efficiency improvement and cultural construction", according to the strategic planning and project construction progress. In terms of "talent cultivation", the Company will continue to strengthen the introduction, training, incentives and retention of four types of core talents, namely, "inter-disciplinary management talents with one specialty and many skills, R&D technical talents, high-skilled industrial workers and international talents". Meanwhile, the Company will build an internal talent supply chain through major special projects such as "joint chain leader system", "craftsmen assessment and employment" and " global management trainee introduction", and make a good talent layout in advance for key projects and key development areas, so that talent reserves can be prepared in advance for the project implementation. In terms of "value distribution", the Company stimulates the employees' motivation and value creation by creating a fair and just assessment culture, constructing a short-, medium-and long-term cash-out mechanism and leading salary strategies. For core management, R&D and technical talents, the Company adopts the partnership form and long-term incentive plans such as stocks and options to promote the achievement of organizational goals and realize talent retention. During the year, the Company awarded 290 million shares to core and outstanding personnel at a price of HK$0.86 per share twice. In the aspect of "efficiency improvement", the Company has built an internal human efficiency management system through digital means, distributed the human efficiency improvement goal to production units such as workshops and sections, carried out vertical benchmarking with history, and horizontal benchmarking with leading peers in the industry, so as to promote organizational efficiency improvement through management improvement. In terms of "cultural construction", the Company will improve the working environment, implement employee care plan and welfare system, and enhance employees' work experience, to make employees feel "happier" at work, and continue to create a "family culture" with temperature and influence.

LAUNCHING SHARE REPURCHASE TO GIVE BACK LONG-TERM VALUE TO SHAREHOLDERS

In the second half of 2022, the Company's share price was also at a low level, affected by the international economic environment and the continuous sluggishness of the Hong Kong stock market. In response, the Company repurchased a total of approximately 200 million shares according to the share incentive plan for employee incentives. In December, the Company further repurchased 31.625 million shares for cancellation.

The Company's share repurchase and cancellation show its confidence in its future development prospects and high recognition of its value. We believed that the Company will further improve the long-term incentive mechanism, fully mobilize the initiative of the core backbone and outstanding employees, cultivate loyalty, enhance operational management capabilities, promote industrial development, and give back long-term value to shareholders.

MAKING IMPROVEMENTS BOTH INTERNALLY AND EXTERNALLY AND ADDRESSING IN SYMPTOMS AND ROOT CAUSES TO STRENGTHEN ENVIRONMENTAL, SOCIAL AND GOVERNANCE PERFORMANCE AND IMPROVEMENT

Regarding corporate governance, GCL Technology continued to optimize the Group governance level from multiple dimensions such as compliance, responsibility, transparency, equality, efficiency and diversity under the effective guidance of its long-term governance objectives. The Company deeply integrated ESG governance into the development strategy and practice, and established the Environment, Society and Governance Committee (ESG Committee) to directly manage ESG-related work, forming a three-level ESG governance structure: the Board or Directors, the ESG Committee and the ESG working group, furthering the Board and the management participation in ESG work, and continuously improving its ESG management level and construction ability.

In terms of environmental responsibility, the Company integrated the green development concept into the whole production management process from the perspectives of system construction, management innovation, awareness improvement and technical iteration, and launched green and low-carbon management in the process of production and operation in an all-round way. Meanwhile, under the global green and low-carbon development trend, the Company has also promoted the deep carbon control and emission reduction in photovoltaic industry through the continuous innovation of low-carbon silicon-based material FBR granular silicon, and kept promoting the green renewable energy development with the innovation of low-carbon silicon-based granular silicon, to drive energy saving and carbon reduction through technological innovation, and deeply integrate company development and innovation with the "dual carbon" goal.

In 2022, GCL Technology actively made reference to the Task Force on Climate-Related Financial Disclosure (TCFD) to carry out the work to deal with climate change, fully considered the potential impact of national climate action and global energy transformation trend on the industry, carefully identified and analyzed its own climate risks and opportunities, and further formulated targeted countermeasures to enhance the Company's adaptability and operational resilience in the face of climate change.

With regard to social responsibility, GCL Technology has always been committed to creating value for customers, building a platform for employees, giving back to the society, and working hand in hand with partners to create a sustainable industry ecosystem. In terms of talent development, the Company will focus on optimizing the talent structure and strengthening the talent echelon construction to create a stable talent supply chain for its global development. In terms of giving back to the society, GCL Technology has always been committed to building a social responsibility matrix, pursuing the sustainable development, establishing a close connection between the Company and communities in all directions, promoting the co-construction and sharing between communities and the Company, driving social growth and helping achieve economic prosperity.

TECHNOLOGICAL GCL, THE FUTURE HAS COME

The year of 2023 is the first year for the new government's administration, and also a crucial year for the implementation of the "14th Five-Year Plan". The photovoltaic industry will enter the "excess supply" state for the first time after a wide range of fare and low price grid access, gradually breaking the supply restrictions at the product end. The low cost and high convenience advantages of photovoltaic power generation are increasingly favored by energy investment and even the consumer market. It is estimated that the incremental photovoltaic installed capacity for the whole year will exceed 100GW for the first time, and the new blue ocean of China photovoltaic industry has been unveiled to us.

In the face of brand-new energy changes and market challenges, GCL Technology will, as always, adhere to the long-term principle of not making quick money or profiteering, be open, inclusive and achieve win-win situation through cooperation, and strive to solve the bottleneck problems in high-quality polysilicon production capacity. The Company will seek progress and upgrading while maintaining stability, promote innovation through digital empowerment, aim to win the future through change, pay close attention to management, strengthen financial stability, and work hard to improve quality and significantly reduce costs. We will withdraw from Siemens rod silicon production field in an orderly manner and deepen green production, continue to promote the matrix construction of FBR capacity at a scale of ten-thousand tons, and double the market share of granular silicon. The Group will strive to realize CCZ process mass production and perovskite technology commercialization, carry out international strategic discussions, speed up the overseas R&D layout, integrate global R&D resources, and employ technological innovation to promote the early realization of the "double carbon" strategic goal.

I sincerely thank the Board of Directors, management team and all employees for their hard work and silent dedication in 2022, and I also deeply thank the shareholders and partners for their long-term support.

MANAGEMENT DISCUSSION AND ANALYSIS

OVERVIEW

In 2022, the Group's solar material business carried forward the growing trend in 2021 and continued a strong growth during the year. Benefit from the "carbon emissions peaking and carbon neutrality" goals, price of polysilicon products remained at a relatively high level during the year. As such, the Group achieved a remarkable financial performance with impressive growth of revenue and significant increase in profits comparing with year ended 31 December 2021.

RESULTS OF THE GROUP

The operation of GCL New Energy Holdings Limited ("GNE") Group was presented as a discontinued GNE operation in the consolidated financial statements during the year and its comparative figures have been restated accordingly, For details information, please refer to "Discontinued Operation" section of this annual report.

For the year ended 31 December 2022, the revenue and gross profit of the Group from continuing operations were approximately RMB35,930 million and RMB17,496 million, respectively, representing an increase of 113.0% and 213.9% respectively as compared with approximately RMB16,868 million and RMB5,574 million for the year ended 31 December 2021.

The Group recorded a profit attributable to the owners of the Company from continuing operations of approximately RMB16,394 million in 2022 respectively, as compared to the profit attributable to owners of the Company of approximately RMB5,241 million in 2021 respectively.

BUSINESS REVIEW

The Group is principally engaged in manufacturing and the sales of polysilicon and wafers and developing, owning and operation of solar farm. The Group has identified the following continuing operation reportable segments:

Solar material business	—	mainly manufactures and sales of polysilicon and wafer to companies operating in the solar industry.
Solar farm business	—	manages and operates solar farms located in the USA and the PRC.

Solar material business

Production

The Group's solar material business belongs to the upstream of the solar supply chain, which supplies polysilicon and wafer to companies operating in the solar industry. Polysilicon is the primary raw material used in the solar wafer production. In the solar industry supply chain, wafers are further processed by downstream manufacturers to produce solar cells and modules.

Polysilicon

On 31 December 2022, the Group had an effective polysilicon production capacity of 185,000 MT: 1) The effective granular silicon production capacity was continuously released, from 30,000 MT at the beginning of the year to 140,000 MT at the end of the year. Among them, Xuzhou base added 30,000 MT of module production capacity, which was put into production in only 8 months of construction; Leshan base has achieved 60,000 MT of qualified production capacity despite of adverse factors such as the pandemic, delayed suppliers' delivery due to electricity restrictions, and delayed construction period, and its customer evaluation ranked among the best in polysilicon industry; Baotou base was put into production as scheduled and reached 20,000 MT of capacity under unfavorable objective factors. 2) Siemens rod silicon production capacity remained unchanged at 45,000 MT.

At the present, the Company is still releasing granular silicon production capacity, with effective granular silicon production capacity of 180,000 MT and the total effective polysilicon production capacity fulfilling 225,000 MT.

For the year ended 31 December 2022, the Group produced a total of 104,723 MT of polysilicon (excluding the output of 64,501 MT from associated companies), which increased by 120% compared with 47,610 MT in the same period in 2021, including 59,124 MT of rod silicon and 45,599 granular silicon, up 46.1% and 537.3% year on year. Each base output reached the level planned at the beginning of the year, except for the Leshan base, the infrastructure of which was delayed for about one quarter due to factors such as the epidemic and power cuts.

Wafer

On 31 December 2022, the Group continuously improved the slicing efficiency through technical improvement, and the silicon wafer production capacity increased from 50GW at the beginning of the year to 55 GW. In July 2022, Ningxia Zhongwei 5GW granular silicon N-type demonstration project started, was completed and put into production in November 2022, and the monosilicon crystal pulling capacity increased to 14 GW.

For the year ended 31 December 2022, the Group produced a total of 46,661 MW of silicon wafers (including 27,789 MW of OEM silicon wafers), with a year-on-year increase of 22.4%.

Sales Volume and Revenue

During the reporting period, the Group shipped 93,900[8] MT of polysilicon (including internal sales 12,238 MT), and sold 46,312MW of wafers (including OEM wafer of 27,704 MW), representing an increase of 96.4% and 21.7%, respectively, as compared with 47,804 MT of polysilicon and 38,049 MW of wafers for the corresponding year in 2021.

For the year ended 31 December 2022, the Company adopts the sales strategy of "same price for same quality" for rod silicon and granular silicon, and the average external selling price (excluding tax) of granular silicon was approximately RMB228.5 (equivalent to US$33.0) per kilogram.

Revenue from external customers of the solar materials business amounted to approximately RMB35,714 million for the year ended 31 December 2022, representing an increase of 114.5% from RMB16,653 million in 2021. It was mainly attributable to lower costs resulting from polysilicon technology innovations and increased shipments due to increased production capacity.

Steady increase in production capacity and quality boosted the industry's conversion efficiency

Among the new polysilicon production capacity in 2022, the granular silicon of GCL achieved the best cost, quality and output rate in the industry, with the effective production capacity from 30,000 tons at the beginning of the year to 140,000 tons at the end of the year, and the increase of 110,000 tons accounted for 22.7%[9] of the annual effective production capacity increased in the industry, ranking first in the industry. With the increase of the effective output of granular silicon, the product quality has also improved rapidly: the proportion of products with total metal content < 3ppbw of granular silicon has increased from 18.3% in the first quarter to 80.3% in the fourth quarter, and has increased to 96% currently, and the proportion of products with total metal content ≤ 1ppbw has exceeded 75%[10], fully meeting the needs of the N-type era.

Changes in total metal (5 elements) impurity content of granular silicon products in 2022

Total metal impurity content	<3ppbw	3-5ppbw	5-8ppbw	>8ppbw
2022Q 1	18.25%	9.96%	17.69%	54.10%
2022Q 2	21.07%	20.74%	22.60%	35.59%
2022Q 3	55.02%	12.45%	8.04%	24.49%
2022Q 4	80.29%	11.42%	6.07%	2.21%

Note: Currently, the total metal (18 elements) impurity content of the Company's granular silicon products is controlled < 3ppbw, which far exceeds the industry average.

8 Due to seasonal factors, the year-end inventories of the Company were improved, which completed all the sales as at the date of the announcement.

9 Data source: Silicon Industry Branch (硅業分會), GCL Industry Research.

10 According to customer feedback and the actual use of the Company, the total metal content <1ppbw can fully meet the production requirements of n-type silicon wafers.

Changes in total metal (5 elements) impurity content of granular silicon products in Xuzhou base in 2023

Total metal impurity content	<1ppbw	1-3ppbw	3-5ppbw	5-8ppbw
January	33%	51%	8%	4%
February	41%	44%	7%	3%
The first week of March	35%	38%	8%	6%
The second week of March	63%	29%	3%	3%
The third week of March	75%	21%	3%	1%

Based on the production data feedback from customers, we can see that with the increase of the dosing ratio of GCL granular silicon, the unit output and life of minority carriers have increased, and the user stickiness has also been significantly improved.

Top five customer purchase list for 901A in 2022

Customer	2022 Q1[11]	2022 Q2	2022 Q3	2022 Q4
Customer A	a	171%a	183%a	736%a
Customer B	b	510%b	784%b	1,748%b
Customer C	c	263%c	379%c	410%c
Customer D	d	229%d	272%d	405%d
Customer E	e	251%e	289%e	457%e

In 2022, with the gradual release of granular silicon production capacity, purchase volume of customers increased rapidly.

Cost and Segment Gross Profit

For polysilicon and wafer production, reducing energy and raw material costs is the core priority of cost control, therefor, the production capacity layout of polysilicon and wafer is mostly located in low electricity price areas. In recent years, the intermittent shortage of energy supply and the rise in electricity prices have become a clear trend, resulting in an upward trend in the cost of polysilicon and wafer industries. The FBR technology greatly reduces the energy consumption for production in the polysilicon industry, thereby continuing to promote the continuous reduction of industry costs and thickening industry profits.

During the year, the gross profit margin of our solar material business was 48.7%, of which the unit gross profit of FBR-based granular silicon was RMB183.1[12]/kg (Profit of the by-product of granular silicon included), which reached the top level in the industry. In February 2023, the cash cost of granular silicon production in the Company's Xuzhou base was RMB37.29[13]/kg and the manufacturing costs was RMB43.73/kg, and the leading advantage has continued to expand and the profitable edges is continuously highlighted.

[11] The shipments of Q2, Q3 and Q4 of the top five customers in 2022 are shown with Q1 shipments as the base data.

[12] Including gross profit of by-product silicon powder. Affected by regional production capacity, the Company's comprehensive electricity price of granular silicon production in 2022 was about RMB0.57 /kWh (including tax); As granular silicon production capacity has gradually landed in areas with low electricity prices, the comprehensive electricity price of granular silicon production will continue to decrease.

[13] The comprehensive electricity price of granular silicon production in the Company's Xuzhou base is RMB0.65/kWh (including tax).

Solar farm business

Overseas Solar Farms

As at 31 December 2022, the solar farm business includes 18 MW of solar farms in the USA. Besides, there were 150 MW solar farms in South Africa, which was partnered with CAD Fund and with the total effective ownership of 9.7% owned by the Group.

PRC Solar Farms

As at 31 December 2022, the Solar Farm business also includes 5 solar farms in the PRC, with both installed capacity and attributable installed capacity at 133.0 MW.

Sales Volume and Revenue

For the year ended 31 December 2022, the electricity sales volume of the solar farm business overseas and in the PRC were 26,920 MWh and 196,918 MWh respectively (2021: 26,371 MWh and 191,209 MWh, respectively).

For the year ended 31 December 2022, revenue for the solar farm business was approximately RMB217 million (2021: RMB215 million).

Group's Outlook

The Group's outlook and likely future developments of the Group's business, is set out in the "Chairman's Statement and CEO's Review of Operations and Outlook" section of this annual report.

FINANCIAL REVIEW

Continuing operations

Revenue

Revenue for the year ended 31 December 2022 amounted to approximately RMB35,930 million, representing an increase of 113% as compared with approximately RMB16,868 million for the corresponding year in 2021. The increase was mainly due to the increase in revenue in solar material business as a result of the increase in selling prices of solar products

Gross Profit Margin

The Group's overall gross profit margin for the year ended 31 December 2022 was 48.7%, as compared with 33% for the corresponding year in 2021.

Gross profit margin for the solar material business increased significantly from 32.9% for the year ended 31 December 2021 to 48.7% for the year ended 31 December 2022.

The gross profit margin for the solar farm business increased from 43.7% for the year ended 31 December 2021 to 52.7% for the year ended 31 December 2022.

Distribution and Selling Expenses

Distribution and selling expenses increased from approximately RMB98 million for the year ended 31 December 2021 to approximately RMB143 million for the year ended 31 December 2022.

Administrative Expenses

Administrative expenses amounted to approximately RMB1,706 million for the year ended 31 December 2022, representing an increase of 25.1% from approximately RMB1,364 million for the corresponding year in 2021. The increase was mainly due to the increase of salary and wage expenses and share based payment expenses in relation to share award scheme charged during the year.

Finance Costs

Finance costs amounted to approximately RMB240 million for the year ended 31 December 2022, representing a decrease of 26.2% from approximately RMB325 million for the corresponding year in 2021. The decrease was mainly due to the decrease of average bank and other borrowings balances during the year.

Reversal of impairment losses/(impairment losses) under expected credit loss model, net

The Group recognised approximately RMB236 million reversal gain under expected credit loss model, net of impairment losses, for the year ended 31 December 2022 (2021: impairment losses of RMB279 million).

The reversal of impairment losses under expected credit loss model, net for the year ended 31 December 2022 mainly comprised of reversal of impairment losses of trade related receivables of approximately RMB301 million (2021: impairment losses of approximately RMB16 million) and impairment loss on non-trade related receivables of approximately RMB65 million (2021: impairment losses of approximately RMB262 million).

Other Expenses, Gains and Losses, Net

For the year ended 31 December 2022, net losses of approximately RMB2,344 million in other expenses, gains and losses were recorded as compared to net losses of approximately RMB892 million for the year ended 31 December 2021. The increase of net losses was mainly due to increase of research and development cost, increase of impairment loss on property, plant and equipment. The net losses mainly comprises of:

(i) research and development costs of approximately RMB1,686 million (2021: RMB1,041 million)

(ii) impairment loss on property, plant and equipment approximately RMB804 million (2021: RMB61 million). For the details, please refer to note 16 to consolidated financial statements.

(iii) gain on disposal of subsidiaries of approximately RMB41 million (2021: RMB16 million)

(iv) gain on disposal of an associate and deemed disposal of a joint venture of approximately RMB202 million (2021: RMB398 million)

(v) gain on fair value change of derivative financial instruments and convertible bonds to a non-controlling shareholder of a subsidiary approximately RMB8.2 million (2021: loss on fair value change of approximately RMB56 million)

(vi) loss on fair value change of investments at FVTPL approximately RMB81 million (2021: loss on fair value change of approximately RMB52 million)

(vii) loss on disposal of property, plant and equipment of approximately RMB165 million (2021: RMB42 million)

Share of Profits of Associates

The Group's share of profits of associates for the year ended 31 December 2022 was approximately RMB4,117 million, mainly contributed by following associates:

- Share of profit of approximately RMB3.2 billion from Xinjiang GCL New Energy Materials Technology Co., Ltd.* (新疆協鑫新能源材料科技有限公司) ("**Xinjiang GCL**");

- Share of profit of approximately RMB0.85 billion from Xuzhou Zhongping GCL Industrial Upgrading Equity Investment Fund LLP* (徐州中平協鑫產業升級股權投資基金(有限合夥) ("**Zhongping GCL**"); and

- Share of profit of approximately RMB76 million from Inner Mongolia Zhonghuan — GCL Solar Material Co., Ltd.* (內蒙古中環協鑫光伏材料有限公司) ("**Mongolia Zhonghuan GCL**").

Income Tax Expense

Income tax expense for the year ended 31 December 2022 was approximately RMB1,880 million as compared with approximately RMB544 million of income tax expense for the year ended 31 December 2021. The increase in income tax expenses mainly due to increase in profit for the year during the year.

Profit attributable to Owners of the Company

As a result of the above factors, profit attributable to owners of the Company from continuing operations amounted to approximately RMB16,394 million for the year ended 31 December 2022 as compared with a profit of approximately RMB5,241 million for the corresponding period in 2021.

The loss attributable to owners of the Company for the year from discontinued operations amounted to approximately RMB 363 million for the year ended 31 December 2022 as compared with a loss of approximately RMB157 million for the year ended 31 December 2021.

The profit attributable to owners of the Company from both continuing operations and discontinued operations amounted to approximately RMB16,030 million for the year ended 31 December 2022 as compared with a profit of approximately RMB5,084 million for the year ended 31 December 2021.

NON-IFRS FINANCIAL MEASURES — ADJUSTED EBITDA

Adjusted EBITDA is earnings/(loss) before finance costs, income taxes, depreciation and amortization, adjusted by major non-cash items, non-operating or non-recurring items and other one-off expenses. Adjusted EBITDA is not a measure of performance under International Financial Reporting Standards (IFRS).

To supplement the consolidated results of the Group prepared in accordance with IFRS, certain additional non-IFRS financial measures such as adjusted EBITDA have been presented in this annual report. These unaudited non-IFRS financial measures should be considered in addition to, not as a substitute for, measures of the Group's financial performance prepared in accordance with IFRS. In addition, these non-IFRS financial measures may be defined differently from similar terms used by other companies. The Company believes that these non-IFRS measures provide useful information to help investors and others understand and evaluate the Company's consolidated results of operations in the same manner as management and in comparing financial results across accounting periods and to those of our peer companies by excluding certain non-cash, non-operating or non-recurring items and other one-off expenses.

The following table sets forth a quantitative reconciliation of adjusted EBITDA for the years ended 31 December 2022 and 2021 to its most directly comparable IFRS measurement and profit before tax:

Continuing operations:	2022 RMB'million	2021 *RMB'million*
For the year ended 31 December:		
Profit for the year	**16,423**	5,239
Adjust: non-operating or non-recurring items:		
— Impairment loss of property, plant and equipment (note a)	**804**	61
— Loss on fair value change of derivative financial instruments and held for trading investments, net (note b)	**3**	22
— Gain on disposal of subsidiaries, net (note c)	**(41)**	(16)
— (Gain)/loss on fair value of convertible bonds to a non-controlling shareholder of a subsidiary (note b)	**(12)**	35
— Gain on disposal of an associate and deemed disposal of a joint venture (note c)	**(202)**	(398)
— Loss on fair value change of investments at FVTPL (note b)	**81**	52
— Exchange (gains)/losses, net (note b)	**(140)**	60
— Impairment losses under expected credit loss model, net of reversal (non-trade related) (note b)	**65**	262
	16,981	5,317
Add:		
Finance costs	**240**	325
Income tax expense	**1,880**	544
Depreciation and amortisation	**1,956**	1,436
Adjusted EBITDA	**21,057**	7,622

Note a:

Impairment loss of property, plant and equipment recognized for the year ended 31 December 2022 was considered as non-cash items. We consistently presented the comparative amount for the year ended 31 December 2021.

Note b:

These items were considered as non-operating in nature. All fair value changes related to derivative financial instruments, held for trading investments, convertible bonds to a non- controlling shareholder of a subsidiary, investments at FVTPL and exchange (gains)/losses were considered as not related to principal business and core operation of the Group, therefore all these changes were considered as non-operating.

For impairment losses under expected credit loss model, net of reversal for non-trade related balances, as they are not related to normal business of the Company, we consider treating it as non-operating in nature.

Note c:

These items were considered as non-recurring in nature, therefore when assessing company financial performance, non-recurring items were excluded.

For disposal or deemed disposal of subsidiaries, associate or joint venture, are one-off transactions and we consider them as non-recurring items.

Property, Plant and Equipment

Property, plant and equipment increased from approximately RMB18,293 million as at 31 December 2021 to approximately RMB26,531 million as at 31 December 2022. Increase in property, plant and equipment was mainly attributable to capital investment in granular silicon production base partially offset by impairment loss made, depreciation charged and distribution in specie of GNE shares during the year.

Interests in Associates

Interests in associates increased from RMB9.6 billion as at 31 December 2021 to RMB15 billion as at 31 December 2022. The increase was mainly due to share of profits of associates during the year.

Interests in associates as at 31 December 2022 mainly consists of below:

- The Group has 38.5% equity interest in Xinjiang GCL of approximately of RMB8.0 billion;
- The Group has 40.27% equity interest in Zhongping GCL of approximately of RMB2.8 billion, Zhongping GCL directly holds 34.5% equity interest in Xinjiang GCL;
- The Group has 6.42% equity interest in Mongolia Zhonghuan GCL of approximately RMB0.8 billion;
- The Group equity interest in Leshan Zhongping Polysilicon Photovoltaic Information Industry Investment Fund Partnership (Limited Partnership)* (樂山市仲平多晶硅光電信息產業基金合夥企業 (有限合夥)) and Leshan Zhongping Nengxin Enterprise Management Consultancy Partnership (Limited Partnership)* 樂山市中平能鑫企業管理諮詢合夥企業 (有限合夥) of approximately RMB71 million and RMB0.3 billion respectively;
- The Group has 28.05% equity interest in Jiangsu Xinhua of approximately RMB0.4 billion; and
- The Group has 7.44% equity interests in GNE Group of approximately RMB2.3 billion which include perpetual note classified as financial assets at fair value through other comprehensive income.

* *English name for identification only*

Trade and Other Receivables

Trade and other receivables increased from approximately RMB17,527 million as at 31 December 2021 to approximately RMB23,621 million as at 31 December 2022. The increase was mainly due to increase of bill receivables in trade nature balances of solar material business.

Trade and Other Payables

Trade and other payables increased from approximately RMB13,853 million as at 31 December 2021 to approximately RMB19,581 million as at 31 December 2022. The increase was mainly due to an increase in trade and construction payables during the year.

Balances with related companies

The related companies included associates, joint ventures and shareholders of non-controlling interest of the Group and companies controlled by Mr. Zhu Gongshan and his family members which hold in aggregate approximately 23.62% (2021: 23.51%) of the Company's share capital as at 31 December 2022 and exercise significant influence over the Company.

Amounts due from related companies increased from approximately RMB600 million as at 31 December 2021 to approximately RMB789 million as at 31 December 2022. The increase was mainly due to increase in amount due from associates during the year.

Amounts due to related companies increased from approximately RMB2,744 million as at 31 December 2021 to approximately RMB3,496 million as at 31 December 2022. The increase was mainly due to increase in amount due to associates during the year.

Liquidity and Financial Resources

As at 31 December 2022, the total assets of the Group were about RMB85.6 billion, of which the aggregate restricted and unrestricted cash and bank balances and other deposits amounted to approximately RMB10.4 billion.

For the year ended 31 December 2022, the Group's main source of funding was cash generated from operating activities and financing activities.

Utilization of Proceeds from Placing

The Company completed three rounds of fund raising in 2021, including (i) a placement of 3,900,000,000 new shares of the Company at a price of HK$1.08 per share with net proceeds of approximately HK$4.148 billion in January 2021 (the "**January 2021 Placing**"); (ii) a top-up placing and subscriptions of 2,000,000,000 new shares of GNE at a price of HK$0.455 per share with net proceeds of approximately HK$895 million (the "**February 2021 Top-up Placing**"); and (iii) a placement of 2,036,588,000 new shares of the Company at a price of HK$2.49 per share with net proceeds of approximately HK$4.994 billion in the December 2021 (the "**December 2021 Placing**").

As at 31 December 2022, the utilization of net of proceeds above are as following:

For January 2021 Placing, the net proceeds was used for (i) reduction of existing borrowing levels and gearing level and adjustment of the debt structure of approximately HK$1.674 billion; (ii) development of FBR based granular silicon production business and production capacity of approximately HK$1.95 billion; and (iii) general corporate purposes of approximately HK$395 million. It is expected that the unutilized fund of amount HK$129 million to be fully utilized on or before 31 December 2023.

For February 2021 Top-up Placing, all of the net proceeds was used for repayment of borrowings.

For the December 2021 Placing, the net proceeds was used for capital expenditure and general working capital purposes approximately HK$4.418 billion and HK$61 million respectively. It is expected that the unutilized fund of amount HK$515 million to be fully utilized on or before 31 December 2024.

On 4 August 2022, the Company and GNE completed a top-up placing and subscriptions of 2,275,000,000 new shares of GNE at a price of HK$0.138 per share with net proceeds of approximately HK$310 million. GNE intends to apply 90% of the amount to support the cost relating to the investment, research and development of natural gas, LNG and integrated energy project management business and to develop the operation and maintenance ("O&M") services for other energy sectors, and the remaining 10% as the general working capital of GNE.

Indebtedness

Details of the Group's indebtedness are as follows:

	As at 31 December 2022 RMB million	As at 31 December 2021 RMB million
Current liabilities		
Bank and other borrowings — due within one year	**9,419**	5,023
Other financial liabilities	**294**	—
Lease liabilities — due within one year	**105**	317
Notes payables — due within one year	**—**	467
Loans from related parties — due within one year	**—**	32
	9,818	5,839
Non-current liabilities		
Bank and other borrowings — due after one year	**3,806**	3,560
Lease liabilities — due after one year	**46**	468
Notes payables — due after one year	**—**	2,648
	3,852	6,676
Indebtedness for solar power plants projects classified as held for sale		
Bank and other borrowings — due within one year	**—**	128
Bank and other borrowings — due after one year	**—**	327
Lease liabilities	**—**	10
	—	465
Total indebtedness	**13,670**	12,980
Less: Bank balances and cash and pledged and restricted bank and other deposits	**(10,430)**	(9,932)
Bank balances and cash and pledged bank deposits and other deposits classified as assets held for sale	**—**	(23)
Net debt	**3,240**	3,025

Below is a table showing the bank and other borrowings structure and maturity profile of the Group.

	2022 RMB million	2021 RMB million
Secured	**8,605**	7,828
Unsecured	**4,620**	755
	13,225	8,583
Maturity profile of bank and other borrowings		
On demand or within one year	**9,419**	5,023
After one year but within two years	**1,424**	1,496
After two years but within five years	**2,194**	1,345
After five years	**188**	719
Group's total bank and other borrowings	**13,225**	8,583

As at 31 December 2022, RMB bank and other borrowings carried floating interest rates with reference to the Benchmark Borrowing Rate of The People's Bank of China and the LPR (Loan Prime Rate). USD bank and other borrowings carried interest rates with reference to the London Interbank Offer Rate.

Key Financial Ratios of the Group

	As at 31 December 2022	As at 31 December 2021
Current ratio	**1.09**	1.23
Quick ratio	**1.02**	1.19
Net debt to equity attributable to owners of the Company	**7.6%**	10.4%

Current ratio	=	Balance of current assets at the end of the year/balance of current liabilities at the end of the year
Quick ratio	=	(Balance of current assets at the end of the year — balance of inventories at the end of the year)/balance of current liabilities at the end of the year
Net debt to total equity attributable to owners of the Company	=	(Balance of total indebtedness at the end of the year — balance of bank balances and cash and pledged and restricted bank and other deposits at the end of the year)/balance of equity attributable to owners of the Company at the end of the year

Policy risk

Policies made by the Chinese Government have a pivotal role in the solar power industry. Any alternation in the preferential tax policies, on-grid tariff subsidies, generation dispatch priority, incentives, upcoming issuance of green certificates, laws and regulations would cause substantial impact on the solar power industry. Although the Chinese Government has been supportive in aiding the growth of the renewable industry by carrying out a series of favorable measures, it is possible that any material adverse adjustment of such measures may have an impact on the Group's operating condition and profitability. In order to minimize risks, the Group will follow rules set out by the government strictly, and will pay close attention to policy makers in order to reduce the adverse impact of policy changes on the Group.

Credit Risk

Each major operating business of the Group has a policy of credit control in place under which credit evaluations of customers are performed on all customers requiring credit.

In order to minimize the credit risk on sales of polysilicon and wafer products, the Group reviews the recoverable amount of each individual trade receivables periodically to ensure that adequate expected credit losses are made. Credit risk of sales of electricity is not significant as most of the revenue is due from the local grid companies in various provinces in PRC.

Risk related to interest rate

Interest risk may result from fluctuations in bank loan rates. Given the Group highly relies on external financing in order to obtain investment capital for new solar power project development and plants and equipment, any interest rate changes will have impact on the capital expenditure and finance costs of the Group, which in turn affect our operating results.

Foreign currency risk

Most of the Group's businesses are located in the PRC and the presentation currency of the consolidated financial statements of the Company is RMB. Substantially all of the Group's revenue, cost of sales and operating expenses are denominated in RMB, and the majority of the Group's assets and liabilities are denominated in RMB, while the rest are mainly denominated in US dollar and Hong Kong dollar. Any depreciation/appreciation of RMB against US dollar or any other foreign currencies may result in a change in value of the monetary assets and liabilities that are denominated in foreign currencies and affect the earnings and value of the net assets of the Group.

The Group continues to adopt a conservative approach on foreign exchange exposure management and ensure that its exposure to fluctuations in foreign exchange rates is minimised. The majority of the Group's borrowings are denominated in RMB. Foreign currency forward contracts will be utilised when it is considered as appropriate to hedge against foreign currency risk exposure.

Risk related to disputes with joint venture partners

The Group's joint venture partners may involve risks associated with the possibility that our joint venture partners may have financial difficulties or have disputes with us as to the scope of their responsibilities and obligations. We may encounter problems with respect to our joint venture partners which may have an adverse effect on our business operations, profitability and prospects.

Risk related to supplier concentration

The Group's wafer business are exposed to concentration risk of reliance on our major suppliers for the supply of the semi solar products, and any shortage of, or delay in, the supply may significantly impact our business and results of operation.

However, the largest supplier was associate of the Group, the Group was able to exercise significant influence on the operation of the associate, this enable the Group to monitor the above risks continually.

Pledge of or restrictions on assets

As at 31 December 2022, the following assets were pledged for certain bank and other borrowings, lease liabilities, or restrictions on assets, issuance of bills, short-term letters of credit for trade and other payables granted to the Group and bank and other borrowings of a joint venture of the Group:

— Property, plant and equipment of RMB3.2 billion (31 December 2021: RMB7.7 billion)

— Right-of-use assets of approximately RMB0.5 billion (31 December 2021: RMB0.7 billion)

— Investment properties of approximately RMB0.4 billion (31 December 2021: RMB0.06 billion)

— Trade receivables and contract assets of approximately RMB8.2 billion (31 December 2021: RMB3.2 billion)

— Pledged and restricted bank and other deposits of approximately RMB3.8 billion (31 December 2021: RMB3.2 billion)

In addition, lease liabilities of approximately RMB0.15 billion are recognised with related right-of-use assets of approximately RMB0.14 billion as at 31 December 2022 (31 December 2021: lease liabilities of approximately RMB0.8 billion are recognised with related right-of-use assets of approximately RMB1.4 billion).

Capital and other Commitments

As at 31 December 2022, the Group's capital commitments in respect of purchase of property, plant and equipment contracted for but not provided amounted to approximately RMB10,225 million respectively (2021: RMB8,847 million) and other commitments to contribute share capital to investments of approximately RMB226 million (2021: RMB960 million).

Contingencies

Financial guarantees contracts

As at 31 December 2022, the Group provided guarantees to its investments at fair value through profit or loss for certain of their bank and other borrowings in proportional to the Group's interest in those investments with amount of approximately RMB71 million. (31 December 2021: the Group guaranteed GNE's subsidiaries of amount approximately RMB 996 million).

As at 31 December 2022, the Group provided a total guarantee with maximum amount of approximately RMB2,500 million and nil (31 December 2021: RMB3,319 million and RMB900 million) to several banks and financial institutions in respect of banking and other facilities of Xinjiang GCL and Jiangsu Xinhua, associates of the Group respectively.

Contingent liability

Save as disclosed in above, the Group and the Company did not have other significant contingent liabilities as at 31 December 2022 and 2021.

Material acquisitions and disposals

1. On 28 July 2022, GNE and the placing agents entered into a placing agreement, pursuant to which 2,275,000,000 new shares of GNE are being issued and placed to placees at HK$0.138 per share with an aggregate value of approximately HK$314 million. The transaction has been completed in August 2022. As a result, the Group's equity interest in GNE was reduced from 49.24% to 44.44%.

   Further details of the above disposal is set out in the announcement of the Company dated 28 July 2022,

2. During the year, the Company completed a conditional special interim dividend by way of distribution in specie of shares of GNE. Upon completion of the Proposed Distribution in Specie, the Company was reduced its shareholding in GNE from approximately 44.44% to approximately 7.44%.

   Further details of the above disposal is set out in the Company's announcement dated 30 August 2022 and 11 October 2022, circular dated 6 September 2022.

Save as disclosed in above, there were no other significant acquisitions during the year ended 31 December 2022, or plans for material acquisitions as at the date of this report, nor were there other material acquisitions and disposals of subsidiaries during the year ended 31 December 2022.

SIGNIFICANT EVENTS AND BUSINESS DEVELOPMENT AFTER REPORTING PERIOD

During the year ended 31 December 2022, 31,625,000 ordinary shares of the Company were repurchased by the Group at an aggregate consideration of approximately RMB 57,971,000 which were recognised in equity as treasury shares. All of the treasury shares were subsequently cancelled in January 2023.

Apart from the above, there were no significant event after the year ended 31 December 2022 and up to the date of this annual report.

EMPLOYEES

We consider our employees to be our most important resource. As at 31 December 2022, the Group had approximately 11,527 employees (31 December 2021: 8,863 employees), excluding the employee of the GNE Group, in the PRC and overseas. Employees are remunerated with reference to individual performance, working experience, qualification and the prevailing industry practice. Apart from basic remuneration and the statutory retirement benefit scheme, employee benefits include but are not limited to discretionary bonuses, with share options granted to eligible employee.

MAJOR INVESTOR RELATIONS ACTIVITIES

The Company adheres to the concept of open and interactive investor relations, to fully establish mutual trust with investors, continuously improve the level of corporate governance, and maintain shareholder value.

Despite the repeated pandemic in 2022, we still maintained interactive relationships with investors in a variety of ways: organized 3 online results conferences; held 4 large-scale reverse roadshows at Xuzhou Zhongneng and Leshan GCL production bases with a total of more than 300 well-known investment institutions visiting GCL production sites to interact with the management; received 30 institutional small-scale investigation and research activities, and held a total of 310 on-site exchanges; participated in a total of 80 strategy meetings of more than 50 well-known securities research institutions, and face-to-face communicated with 2,563 investors; held 150 offline roadshows, with a total of 1,500 investors participated in; organized 300 teleconferences and online conferences, with a total of 4,003 investors participated.

In 2022, the Company was recommended by 18 well-known domestic and foreign securities research institutions, of which 10 institutions made the first coverage recommendation; 62 research reports and 9 in-depth research reports about the Company were published.

In 2023, we arranged several rounds of on-site visits of the production facilities for investors and feedbacks from the participants are very positive. Also, for the very first time, we disclose the summary of the on-site visits on our website to improve interactions with investors. We will strive to explore more channels to communicate with our investors, so that investors can better understand GCL Technology. By doing so, we can hear from more investors and build a sound investor communication ecosystem.

CORPORATE ENVIRONMENTAL POLICIES AND PERFORMANCE

The Company actively promotes the balance of corporate economic growth, environmental protection and social contribution and sustainable development by adhering to the philosophy of "Bringing Green Power to Life" with its mission to provide effective clean energy and continuously improve our living environment. By continuous reinforcing the environmental protection concept, improving its production efficiency and implementing energy saving and carbon reduction initiates, the Company is committed to become a silicon-based material supplier with the lowest carbon emission, lowest cost, largest production capacity and best customer experience.

The Company believes that, a transparent, bilateral and timely communication is conducive to maintaining harmonious relationship among parties, enhancing mutual trust and respect and laying a solid foundation for the Company's sustainable development. Therefore, the Company has committed to communicating with stakeholders in multi channels and attaching great importance to their views. Regular and ad-hoc communications with various stakeholders, including government authorities/regulatory bodies, shareholders/investors, customers, the staff, partners, community personnel/non-governmental organization and media etc., were also held in an active manner to understand their concerns and regularly reviews the effectiveness of such efforts, so as to optimize the ways of communication and give a comprehensive reflection of the opinions from stakeholders.

The Company has always been in stringent compliance with national and local laws and regulations, including but not limited to the company laws, labor laws, occupation disease prevention laws, environmental protection laws and pollution prevention laws, etc. The Company always improves its level and performance in corporate governance, employee development and environmental management according to industry trends, stakeholders' expectations and its own operations. The Company has internal departments in place and formulates related policies, procedures and goals to improve its management capabilities, optimize manufacturing processes, enhance the efficiency of utilization of its resources, and promote emission and carbon reduction.

The Company firmly believes that green and low-carbon technological innovation has positive significance for realizing the sustainable development of the Company and the industry. It has persisted on innovation and introduced an innovative FBR-based granular silicon product in the market. Its characteristics of low energy consumption and low carbon emission not only solve the energy consumption pain point of the materials of the PV industry chain, but also reduce the production cost of the industry chain. In addition, with its excellent carbon footprint performance, the Company will continue to achieve its goal of carbon neutrality.

The Company has also devoted considerable resources into the upgrading and reforming of environmental protection, environment surveillance and management so as to enhance its environmental performance, including constantly improving the environmental management systems, formulating and updating the environmental policies, actively integrating the environmental objectives into life cycle and every parts of the production and operation of products, taking advantage of the technology to recover the emission and by-products generated during production in an effective manner, and encouraging our staff to take joint action. In addition, the Company had strengthened its supply chain management, and conducted environmental and social risks assessment on suppliers, with the aim of promoting the improvement on the level of environmental management of the industrial chain as a whole.

By adhering to the principle of people-oriented management, the Company strives to continuously enhance staff's satisfaction with the Company and their happiness through practical rights protection, a diverse and equal working atmosphere, a scientific training system, a healthy and safe working environment, considerate humanistic care and sharing its development results with its employees.

The Company adheres to the operation concepts of equality, integrity, sharing and mutual benefits, and actively takes participation in various charity events. In 2021, while implementing the Company's internal epidemic prevention work and effectively ensuring the health and safety of employees, the Company actively responded to the needs of epidemic prevention and control.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Please refer to the separately published "Environmental, Social and Governance Report" for more details.

BIOGRAPHICAL DETAILS OF DIRECTORS AND SENIOR MANAGEMENT

EXECUTIVE DIRECTORS

ZHU Gongshan (Chairman), aged 65, is the founder of the Company. He has been an Executive Director and the Chairman of the Company since July 2006. Mr. Zhu Gongshan is also a member of the Strategy and Investment Committee of the Company. Mr. Zhu Gongshan is the father of Mr. Zhu Yufeng. Mr. Zhu Gongshan was a member of the 12th National Committee of the Chinese People's Political Consultative Conference (the "CPPCC") and is currently a member of the 12th Jiangsu Province Committee of the CPPCC, the chairman of Global Green Energy Industry Council, the chairman of Asian Photovoltaic Industry Association, the deputy director of the Green and Low Carbon Development Promotion Committee of China Enterprise Confederation, the executive vice president of the Energy Storage and Electric Vehicle Branch of China Electricity Council. He concurrently serves as the executive chairman of ICC China Environment and Energy Committee, the vice chairman of China Overseas Chinese Entrepreneurs Association, the vice chairman of China Fortune Foundation Limited, the vice chairman of China Industrial Overseas Development & Planning Association, the vice president of Jiangsu Federation of Industry and Commerce, the honorary chairman of Jiangsu Residents Association in Hong Kong, the honorary chairman of the Federation of HK Jiangsu Community Organisations, the honorary chairman of Suzhou Federation of Industry and Commerce and the chairman of SNEC Hydrogen Energy Industry Alliance Council. Mr. Zhu Gongshan has been given the "New China 70th New Energy Industry 10 Outstanding Contributors" award and the medals of "Chinese Enterprise Reform, Figure of Energy Revolution and Leading Energy Entrepreneur of 40 Years Reform and Opening". Mr. Zhu Gongshan graduated from Nanjing Electric Power College* (南京電力專科學校) in July 1981 and obtained a diploma in electrical automation. He is also a director of GCL System Integration Technology Co., Ltd. (協鑫集成科技股份有限公司), a company with its shares listed on the Shenzhen Stock Exchange (Stock Code: 002506)) and of GCL Energy Technology Co., Ltd. (協鑫能源科技股份有限公司), a company with its shares listed on the Shenzhen Stock Exchange (Stock Code: 002015)). Mr. Zhu Gongshan is also the chairman and an executive director of GCL New Energy Holdings Limited, a company with its shares listed on the Main Board of the Hong Kong Stock Exchange (Stock Code: 451).

ZHU Yufeng (Vice Chairman), aged 41, has been an Executive Director of the Company since September 2009 and is a member of the Remuneration Committee of the Company. Mr. Zhu Yufeng has been appointed as a vice chairman of the Board since September 2022. Mr. Zhu Yufeng is also a director of several subsidiaries of the Company. Mr. Zhu Yufeng is the son of Mr. Zhu Gongshan. Mr. Zhu Yufeng joined a subsidiary of the Company in 2006. He is responsible for human resources, administration and project tender of the Company. Mr. Zhu Yufeng is the chairman of GCL System Integration Technology Co., Ltd. (協鑫集成科技股份有限公司), a company with its shares listed on the Shenzhen Stock Exchange (Stock code: 002506)), the chairman of GCL Energy Technology Co., Ltd. (協鑫能源科技股份有限公司), a company with its shares listed on the Shenzhen Stock Exchange (Stock code: 002015)), and the vice chairman of GCL New Energy Holdings Ltd. (協鑫新能源控股有限公司), a company with its shares listed on the Main Board of the Hong Kong Stock Exchange (Stock code: 451).

Mr. Zhu Yufeng is the committee secretary of CPC GCL Group Limited (中共協鑫集團有限公司),vice chairman and president of Golden Concord Holdings Limited (協鑫集團(控股)有限公司) and a director of GCL Group Limited (協鑫集團有限公司). Mr. Zhu Yufeng also serves as a member of the Standing Committee of All-China Youth Federation, the vice president of Chinese Young Entrepreneurs'Association, the vice chairman of China Electricity Council, the vice president of General Chamber of Commerce of Jiangsu Province, the president of Jiangsu Youth Chamber of Commerce and a member of the 14th and 15th committees of CPPCC in Suzhou City etc. In addition, Mr. Zhu Yufeng was honored as "2017 Top Ten People of the Year for China New Energy (2017中國新能源十大年度人物)", "2017 Virtuous Leadership Award (2017年度臻善領袖獎)" and "2021 China Energy Industry Leader (2021年度中國能源行業領軍人物)". Mr. Zhu Yufeng graduated from George Brown College (Business Administration Faculty).

ZHU Zhanjun (Vice Chairman and Joint CEO), aged 53, has been an Executive Director and Executive President of the Company since January 2015. He has been appointed as the Chief Executive Officer ("CEO") of the Company since April 2016 and has been appointed as the Vice Chairman and re-designated as a Joint CEO of the Company since February 2022. Mr. Zhu Zhanjun is a member of the Strategy and Investment Committee of the Company and also a director of several subsidiaries of the Company. Mr. Zhu Zhanjun has vast experience in the polysilicon and wafer business. He joined in 2004 as a plant manager of one power plants of the Group and was promoted as a general manager in 2006. He was transferred to Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd.* (江蘇中能硅業發展有限公司) ("Jiangsu Zhongneng"), a subsidiary of the Company which manufactures polysilicon, as Deputy Director-Infrastructure in 2008. Mr. Zhu Zhanjun was promoted as the General Manager of Jiangsu GCL Silicon Material Technology Development Co., Ltd.* (江蘇協鑫硅材料科技發展有限公司) ("Jiangsu GCL"), a subsidiary of the Company in 2009 and was appointed as a vice president of the Company in 2013, overseeing the Company's ingot business and Jiangsu GCL's wafer business. Mr. Zhu Zhanjun is an engineer and obtained a Master degree in Business Administration from China Europe International Business School* (中歐國際工商學院) in 2013. Mr. Zhu Zhanjun is currently a director of GCL Group Limited (協鑫集團有限公司), a company controlled by Zhu Grongshan.

LAN Tianshi (Joint CEO), aged 42, has been appointed as an executive Director and a joint CEO since February 2022. He joined the Group in July 2007 and served as a professional technician, deputy factory manager, factory manager, assistant deputy general manager, deputy general manager and executive deputy general manager of Jiangsu Zhongneng, a wholly-owned subsidiary of the Company. Mr. Lan currently holds various positions in the subsidiaries of the Company, including the chairman and general manager of Jiangsu Zhongneng, a director of Leshan GCL New Energy Technology Co., Ltd.* (樂山協鑫新能源科技有限公司), an executive director and general manager of Chengdu GCL Southwest Technology Development Co., Ltd.* (成都協鑫西南科技發展有限公司), and an executive director of GCL Industrial Design Research (Xuzhou) Co., Ltd.* (協鑫工業設計研究 (徐州) 有限公司). Mr. Lan holds a bachelor degree in chemical engineering and technology from Harbin Engineering University, a master degree from Sichuan University and a petrochemical engineering senior engineer certificate issued by the Jiangsu Petrochemical Engineering Advanced Professional Technical Qualification Evaluation Committee. Mr. Lan has nearly fifteen years of experience in chemical manufacturing and management.

SUN Wei, aged 51, has been an Executive Director of the Company since September 2016. Prior to the appointment, Ms. Sun was an Executive Director of the Company for the periods from November 2006 to July 2007 and from October 2007 to January 2015, she has also served the Company as the Honorary Chairman of Finance and Strategy Function. She is also a director of several subsidiaries of the Company. Ms. Sun currently is responsible for the corporate finance, financial strategy and management of the Group. Ms. Sun is the non-executive director of GNE and the vice chairman of Golden Concord Holdings Limited, a company controlled by Mr. Zhu Gongshan, and the joint president of China Hong Kong Economic Trading International Association. Ms. Sun has over 25 years' experience in corporate finance, financial strategy and management experience. Ms. Sun was awarded a Doctorate degree in Business Administration in 2005. Ms. Sun is a director a director of GCL System Integration Technology Co., Ltd.* (協鑫集成科技股份有限公司).

YEUNG Man Chung, Charles (CFO and Company Secretary), aged 55, has been an executive Director of the Company since September 2014. He is also a member of the Nomination Committee, Corporate Governance Committee and Strategy, Investment Committee and Environmental, Social and Governance Committee of the Company. Mr. Yeung was appointed as the Chief Financial Officer ("CFO") of the Company on 30 April 2014 and Company Secretary of the Company on 20 March 2017. He is also a director of several subsidiaries of the Company. Prior to joining the Company in April 2014, he served as partner of Deloitte Touche Tohmatsu and was a part-time member of the Central Policy Unit of the Government of Hong Kong Special Administrative Region. When he left Deloitte Touche Tohmatsu in March 2014, he was the Head of Corporate Finance Advisory Services, Southern China. Mr. Yeung has a Bachelor of Business degree with a major in accounting and he is also a member of The Hong Kong Institute of Certified Public Accountants and The Australian Society of Certified Practising Accountants. Mr. Yeung has over 30 years of experience in accounting, auditing and financial management. Mr. Yeung is responsible for the financial control and reporting, corporate finance, tax and risk management of the Company and its subsidiaries. Mr. Yeung is also a non-executive director of GNE and the vice president of Golden Concord Group Limited. Mr. Yeung is an independent non-executive director of Tree Holdings Limited, a company with its shares listed on the Hong Kong Stock Exchange GEM Board (Stock code: 8395).

INDEPENDENT NON-EXECUTIVE DIRECTORS

HO Chung Tai, **Raymond**, *SBS, MBE, S.B.St.J., JP*, aged 84, has been an Independent Non-Executive Director of the Company since September 2007. Dr. Ho is the chairman of the Remuneration Committee, the Strategy and Investment Committee and the Corporate Governance Committee of the Company, and also a member of the Audit Committee, Nomination Committee and Environmental, Social and Governance Committee of the Company.

Dr. Ho has 60 years of experience in the fields of civil, structural, environmental and geotechnical engineering and direct project management of mega size engineering projects including 50 years in Hong Kong and 10 years in the United Kingdom. As Project Director, he had direct management responsibility for the HK$3.0 billion (cost at the time) project of Electrification and Modernisation of Kowloon-Canton Railway (East Rail line) from the mid-70's till early 80's; and also as Project Director for all the government-funded infrastructure works for Shatin New Town and Tseung Kwan O New Town from early 1982 till the end of 1993, as well as professionally responsible experience in the construction of tunnels, bridges, flyovers, roads, dockyards, wharves, jetties, hospitals, hotels, incinerators, high-rise commercial/residential buildings, slopes, reclamation, environmental studies and environmental protection projects.

Dr. Ho is currently the Honorary Chairman and past Chairman of Guangdong Daya Bay Nuclear Power Station and Ling Ao Nuclear Power Station Nuclear Safety Consultative Committee and former professional advisor to The Ombudsman of Hong Kong (Architecture, Engineering and Surveying). He also participates in the promotion of innovation and technology such as Graphene. Dr. Ho also is currently an independent non-executive director of the following listed companies in Hong Kong, namely, Deson Development International Holdings Limited (Stock Code: 262), Chinlink International Holdings Limited (Stock Code: 997), AP Rentals Holdings Limited (Stock Code: 1496) and Superland Group Holdings Limited (Stock Code: 368) .

YIP Tai Him, aged 52, has been an Independent Non-Executive Director of the Company since March 2009. He is the chairman of the Audit Committee and the Nomination Committee and is also a member of the Remuneration Committee, the Strategy and Investment Committee and the Corporate Governance Committee and the Environmental, Social and Governance Committee of the Company. Mr. Yip is a practising accountant in Hong Kong. He is also a member of the Institute of Chartered Accountants in England and Wales and the Association of Chartered Certified Accountants in the United Kingdom. He has over 25 years of experience in accounting, auditing and financial management. Mr. Yip is currently an independent non-executive director of the following listed companies in Hong Kong, namely, Shentong Robot Education Group Company Limited (Stock Code: 8206), Redco Properties Group Limited (Stock Code: 1622), Dongguan Rural Commercial Bank Co., Ltd. (Stock Code: 9889) and Zhongchang International Holdings Group Limited (Stock Code: 859).

SHEN Wenzhong, aged 54, Dr. Shen has been an Independent Non-Executive Director of the Company since July 2015. He is the chairman of the Environmental, Social and Governance Committee and a member of the Audit Committee and the Strategy and Investment Committee of the Company. Dr. Shen has been a Professor and PhD Supervisor in the School of Physics and Astronomy, Shanghai Jiao Tong University since 1999 as well as a Changjiang Chair Professor of Shanghai Jiao Tong University since 2000. He became the Director of the Institute of Solar Energy at Shanghai Jiao Tong University since 2007. Dr. Shen has participated in various science and technology research programmes in the PRC, published scientific papers in international journals and books on photovoltaic subjects. He graduated from the Shanghai Institute of Technical Physics, Chinese Academy of Sciences with a doctorate degree in 1995. During the period from 1996-1999, he joined Georgia State University in the U.S. as a postdoctoral fellow. Dr. Shen is currently the honorary chairman of the Committee of Shanghai Solar Energy Society. He is an independent non-executive director of Jolywood (Suzhou) Sunwatt Co., Ltd. (蘇州中來光伏新材股份有限公司), a company with its shares listed on the Shenzhen Stock Exchange (Stock Code: 300393), Jiangsu Arctech Solar Holding Co. Ltd. (江蘇中信博新能源科技股份有限公司), a company with its shares listed on the Shanghai Stock Exchange (Stock Code: 688408), and Hainan Drinda New Energy Co., Ltd. (海南鈞達新能源科技股份有限公司), a company with its shares listed on the Shenzhen Stock Exchange (Stock Code: 002865).

* English name for identification only.

SENIOR MANAGEMENT

At the date of this report, the senior management of the Group comprises the above executive Directors, namely, Mr. Zhu Gongshan, Mr. Zhu Yufeng, Mr. Zhu Zhanjun, Mr. Lan Tianshi, Ms. Sun Wei and Mr. Yeung Man Chung, Charles.

The Company is dedicated to achieve and maintain a high standard of corporate governance to maximize the Company's and the stakeholders' value, with continuous review and evaluation of the various systems and procedures are carried out to ensure their effectiveness. During 2022, the Company had organised an in-house Directors' training in corporate governance for the Directors and senior management of the Company. The Strategy and Investment Committee has reviewed and assessed its responsibility to cover evaluation of significant investment and disposal proposals. Other work done in relation to corporate governance during 2022 is delineated in this report.

The Company has complied with all the code provisions as stipulated in the Corporate Governance Code (the "Code") under Appendix 14 in the Listing Rules throughout the year ended 31 December 2022.

THE BOARD

Board Composition

As at the date of this report, there are nine Board members comprising, six Executive Directors and three INEDs, with different gender, culture, professional background and/or extensive expertise and experience in the Group's business related industries.

Biographical details of the Directors are set out under the section headed "Biographical details of Directors and Senior Management" of this annual report on pages 46 to 50.

Mr. Zhu Gongshan and Mr. Zhu Yufeng are beneficiaries of the Zhu Family Trust which is a controlling shareholder of the Company. Mr. Zhu Yufeng is the son of Mr. Zhu Gongshan. Each of Mr. Zhu Zhanjun, Ms. Sun Wei and Mr. Yeung Man Chung, Charles holds management positions in the companies controlled by the Zhu Family Trust.

Save for the above and to the best knowledge of the Company, there is no financial, business, family or other material or relevant relationships among members of the Board and the substantial shareholders of the Company.

Each of the three INEDs has made a written confirmation to the Company of his independence with reference to the criteria and guidelines as set out in Rule 3.13 of the Listing Rules. Each Director has declared to the Company of his/her interests in any material contracts or other interest in the business of the Group or in any competing business with the Group. During the year ended 31 December 2022, the Company complied with Rules 3.10(1), 3.10(2) and 3.10A of the Listing Rules which require the minimum number of INEDs and at least one of the INEDs has appropriate professional qualifications or accounting or related financial management expertise.

Appropriate insurance to cover against liability of the Directors and officers of the Company has been arranged and renewed annually.

BOARD PROCESS AND EFFECTIVENESS

The Board is responsible for leading the Group's activities by determining strategic directions and business plan, exercising a number of reserved powers to oversee the operations and monitor the financial performance of the Group by determination of the annual budget, approving significant capital investment, ensuring the integrity of the Group's accounting and financial reporting system and to oversee management in the design, implementation and monitoring of the risk management and internal control systems of the Group.

The management is responsible to implement the Board's decision within the delegated authority, to make investment proposal, report their performance regularly to the Board and ensure by continuous monitoring that the Group's risk management and internal control systems are effective. Key features of Board process:

- at least four regular Board meetings will be held each year, with additional meetings to be held as and when required. In 2022, there were four regular meetings and 32 non-regular meetings held by the Board;
- in respect of regular meetings, at least 14 days' notice is given to all Directors to give them an opportunity to attend. For all other meetings, reasonable notice is given;
- proposed agenda has been given to all Directors at least 14 days prior to the regular meetings to give them an opportunity to include matters in the agenda and the board papers were sent to all Directors at least 3 days before the meetings;
- all Directors are able to access to the advice and services of the Company Secretary, management and external professionals with a view to ensuring that board procedures, all applicable rules and regulations, are followed;
- minutes of all board meetings and committee meetings have been sent to all Directors for their comments and records respectively, within a reasonable time after the meetings are held; and
- a procedure has been adopted by the Company to enable the Directors, upon reasonable request, to seek independent professional advice in appropriate circumstances, at the Company's expense.

BOARD INDEPENDENCE EVALUATION

The Company has established a Board Independence Evaluation Mechanism which sets out the processes and procedures to ensure a strong independent element on the Board, which allows the Board effectively exercises independent judgment to better safeguard Shareholders' interests.

The objectives of the evaluation are to improve Board effectiveness, maximize strengths, and identify the areas that need improvement or further development. The evaluation process also clarifies what actions of the Company need to be taken to maintain and improve the Board performance, for instance, addressing individual training and development needs of each Director.

Pursuant to the Board Independence Evaluation Mechanism, the Board will conduct annual review on its independence.

APPOINTMENT AND RE-ELECTION OF DIRECTORS

The INEDs are appointed for a specific term of office for three years. All Directors, including the INEDs, are subject to retirement by rotation and eligible for re-election at annual general meetings in accordance with the Company's Articles of Association, provided that every Director shall be retired at least once every three years. At the annual general meeting held on 31 May 2022. Mr. Lan Tianshi, Ms. Sun Wei, Mr. Yeung Man Chung, Charles, Mr. Zheng Xiongjiu and Mr. Yip Tai Him had been retired and re-elected as Directors at such meeting. Mr. Lan Tianshi has been appointed as an executive Director and a Joint CEO of the Company and Mr. Zhu Zhanjun has been appointed as the Vice Chairman and re-designated as a Joint CEO of the Company with effect from 21 February 2022. Mr. Wong Man Chung, Francis has resigned an independent non-executive Director of the Company with effect from 31 May 2022. Mr. Zheng Xiongjiu has resigned as an executive Director of the Company with effect from 18 August 2022.

NOMINATION OF DIRECTOR

Where vacancies arise at the Board or whenever any qualified professionals or individuals with relevant expertise and experience is likely to be invited to join the Board, the age, cultural background, gender, qualifications, experience and awards (if any) of the proposed candidate(s) will be put forward to the Nomination Committee for its consideration and decision whether to make recommendation to the Board. A nomination policy has been adopted by the Company.

RESPONSIBILITIES OF DIRECTORS

During the year, the Directors had performed their responsibilities by attending and participating in various committees meetings, board meetings and general meetings. In order to encourage the Director's active participation in the meetings, meeting materials will be and had been dispatched to the Directors in advance of the meetings (for all regular meetings, at least three days in advance) to allow them to have the chance to read and understand the issues to be discussed at the meetings. The Company will also circulate a monthly report to the Directors to keep them up-to-date of the status and position of the Group.

There were 36 Board meetings held during the year, including 1 annual general meeting and 3 extraordinary general meetings. The attendance of such meetings is shown in the table below:

Members of the Board	**Number of Board meetings attended/held**	**Number of general meetings attended/held**
Executive Directors		
Zhu Gongshan *(Chairman)*	21/36	4/4
Zhu Yufeng *(Vice Chairman)*	29/36	4/4
Zhu Zhanjun *(Vice Chairman and Joint CEO)*	33/36	4/4
Lan Tianshi *(Joint CEO)*	29/31	4/4
Sun Wei	32/36	4/4
Yeung Man Chung, Charles	36/36	4/4
Zheng Xiongjiu (resigned on 18 August 2022)	6/23	3/3
Independent Non-executive Directors		
Ho Chung Tai, Raymond	36/36	4/4
Yip Tai Him	36/36	4/4
Shen Wenzhong	36/36	4/4
Wong Man Chung, Francis (resigned on 31 May 2022)	14/15	3/3

DIRECTORS' INDUCTION AND CONTINUOUS PROFESSIONAL DEVELOPMENT

Upon the appointment of new Directors, a comprehensive directors' handbook, which sets out the Company's business and a summary of the applicable laws, rules and regulations and key governance issues, will be and had been provided to each newly appointed Directors. A training regarding the rules and regulations applicable to directors of listed companies to observe during their services on Board will also be provided to each of the newly appointed Directors. During the year, the Company had organised an in-house Directors' training for the Directors and the senior management of the Company to attend.

Ongoing updating the Directors and senior management of the Company on further developments and requirements of any applicable rules, regulations and laws or refreshing their knowledge and skills by providing briefings or arrangement of seminars had been adopted by the Company during the year. In addition, understanding the business and operations of the Group is also important for the Directors to discharge their responsibilities.

The Directors acknowledged the importance of updating their professional development and refreshing their knowledge and skills. The Company encouraged the Directors to participate in any seminar or forum organised by professional bodies, independent auditors, solicitors, chambers and business organisations as well as reading relevant articles. Below is a table in accordance with the records maintained by the Company indicating the Directors had received the following training in compliance with code provision A.6.5 of the Code during the year:

	Corporate Governance/Updates on Laws, Rules & Regulations/ Accounting/Financial/Management or Other Professional Skills	
Directors	**Read Materials**	**Attend Seminars/ Briefings**
Executive Directors		
Zhu Gongshan *(Chairman)*	√	√
Zhu Yufeng *(Vice Chairman)*	√	√
Zhu Zhanjun *(Vice Chairman and Joint CEO)*	√	√
Lan Tianshi *(Joint CEO)*	√	√
Sun Wei	√	√
Yeung Man Chung, Charles	√	√
Independent Non-executive Directors		
Ho Chung Tai, Raymond	√	√
Yip Tai Him	√	√
Shen Wenzhong	√	√

CHAIRMAN AND JOINT CHIEF EXECUTIVE OFFICER

Mr. Zhu Gongshan had been the Chairman of the Board since September 2009, and since 1 April 2016, Mr. Zhu Zhanjun was appointed as CEO of the Company. Mr. Zhu Zhanjun has been appointed as the Vice Chairman of the Board and re-designated as a Joint Chief Executive Officer; and Mr. Lan Tianshi has been appointed as an executive Director and a Joint CEO since February 2022. Mr. Zhu Yufeng has been appointed as the Vice Chairman of the Board since September 2022. The primary responsibilities of the Chairman are to provide leadership to the Board in setting corporate goals of the Company, overseeing the performance and effectiveness of the Board, ensuring the compliance of rules and regulations and taking a lead to ensure that the Board acts in the best interest of the Company and shareholders as a whole. In particular, the Chairman should ensure that Board meetings are effectively conducted, including all Directors to receive timely, adequate, accurate, complete and reliable information. The Chairman also takes the primary responsibility for ensuring that good corporate governance practices and procedures are established. The Vice Chairman is responsible for assisting the Chairman in daily management of the Board.

The Joint CEO is responsible for strategic planning and management of the Company's daily operation, including financial management, technology and brand development.

The Chairman will meet with the non-executive Directors to discuss with them of any issues concerning the Company, without the presence of the executive Directors. During the year, a meeting had been held among the Chairman and the INEDs.

DELEGATION BY THE BOARD

The Board delegates certain responsibilities to various committees which are discussed below. Each of these committees has its respective terms of reference, all of them are posted on the Stock Exchange's and the Company's websites.

ACCOUNTABILITY AND AUDIT

The Directors acknowledge their responsibility for preparing the financial statements for each financial year, which give a true and fair view of the state of affairs of the Group and of the profits and cash flows of the Group in accordance with International Financial Reporting Standards, disclosure requirements of the Hong Kong Companies Ordinance and the Listing Rules. In preparing the financial statements for the year ended 31 December 2022, the Directors have selected suitable accounting policies and applied them consistently; made judgements and estimates which are reasonable and have prepared the financial statements on a going concern basis. The Directors are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position, results of operations, cash flows and changes in equity of the Group. The Independent Auditor's Report relating to their reporting responsibilities on the financial statements of the Company is set out from pages 100 to 101 of this annual report.

AUDIT COMMITTEE

The Audit Committee comprises three INEDs, namely Mr. Yip Tai Him, Ir. Dr. Ho Chung Tai, Raymond and Dr. Shen Wenzhong. Mr. Yip Tai Him, who is a practicing accountant in Hong Kong and a member of the Institute of Chartered Accountants in England and Wales and the Association of Chartered Certified Accountants in the United Kingdom, possesses extensive accounting experience and serves as the chairman of the committee.

The terms of reference of the Audit Committee, which has been updated on 4 January 2016, setting out the operation, authorities and responsibilities of the committee is available on the websites of the Company and the Stock Exchange. The major responsibilities of the Audit Committee includes:

- monitoring integrity of the financial statements, annual report and interim report;
- monitoring and assessing the risk management and internal control systems (including the adequacy of resources, qualifications and experience of accounting and financial reporting staff);
- discussing the risk management and internal control systems with management to ensure that management has performed its duty to have effective systems;
- considering any major investigation findings on risk management and internal control matters as delegated by the Board or on its own initiative and management's response to these findings;
- monitoring the independence of an external auditor;
- monitoring and assessing the performance of the external auditor, proposing to the Board the appointment or removal of the external auditor, and facilitating the communication between external auditor and internal audit function;
- reviewing any material queries raised by the external auditor to management about accounting records, financial accounts or systems of control, management's response and the Board's timely response; and
- acting as key representative body for overseeing the Company's relations with the external auditor.

12 Audit Committee meetings were held in 2022 and the attendance is set out in the following table:

Members of Audit Committee	**Number of meetings attended/eligible to attend**
Yip Tai Him *(Chairman)*	12/12
Ho Chung Tai, Raymond	10/12
Shen Wenzhong	12/12
Wong Man Chung, Francis (resigned on 31 May 2022)	6/7

The following work was performed by the Audit Committee during the year ended 31 December 2022 and up to the date of this report:

i. reviewed and approved the audit fees;
ii. assessed the independence of the external auditors;
iii. approved the scope of audit for the year ended 31 December 2022;
iv. reviewed the reports from the Auditor for the interim and year end;
v. reviewed the 2022 audited financial statements and the results announcement;
vi. reviewed the report on the continuing connected transactions for the financial year ended 31 December 2022 and six months ended 30 June 2022;
vii. reviewed the interim and year end internal audit reports and concluded that the Group has effective risk management and internal control systems and the qualifications and experience of the Company's accounting staff and resources for financial reporting function are adequate;
viii. reviewed the corporate governance review report (including the compliance status of provisions in relation to risk management and internal audit under Appendix 14 of the Listing Rules) prepared by Internal Controls Consultant and reported to the Board of its conclusion and recommendation;
ix. recommended the election of the proposed external auditors at the forthcoming annual general meeting; and
x. reviewed and approved certain non-audit services provided by the auditor.

The Audit Committee monitors the audit and non-audit services rendered to the Group by its external auditors and ensures that their engagement in other non-audit services will not impair their audit independence.

For the year ended 31 December 2022, the total remuneration paid to the Crowe (HK) CPA Limited is analysed as follows:

Nature of Service	**Fees** (RMB'000)
Audit services	
— 2022 Annual audit	10,150
Non-audit services	
— 2022 Interim review	2,000
— Others	1,300

Risk Management and Internal Control

With assistance of the Corporate Governance Committee and the Audit Committee, the Board of the Company is responsible for monitoring and reviewing the effectiveness of the risk management and internal control systems of the Group (the "Systems") on an ongoing basis. The Systems implemented by the management and relevant parties of the Group aims to manage rather than eliminate risks of failure to achieve the following business objectives, and to only provide reasonable, but not absolute, assurance against material misstatement or loss:

- efficiency and effectiveness of operation
- reliability of financial reporting
- compliance with applicable laws and regulations
- effectiveness of risk management

Members of the Board and the management of the Company actively engage in the risk assessment, the review of response measures and the discussion with respect to major issues.

The Company has an internal audit department in place to be responsible for the implementation of risk management and internal control policies. In performing its responsibilities, the internal audit department has organized and coordinated the Company to identify and assess the risks exposed to the Group for the Board's consideration and motivate the management to design, implement and manage suitable internal control and risk management systems to facilitate policies adopted by the Board. In addition to the Internal Audit Department, all employees are accountable for the implementation of risk management and internal control under each of scope of their responsibilities.

Systems Overview

Each business unit of the Group adopts the Systems during the ordinary course of business. The risk management portion within the Systems aims to provide clear and effective management procedures for each business units to identify, review and prioritize risks for the purpose of efficient resource allocation in conducting corresponding risk management. The management can also have an understanding of the significant risks exposed to the Group through the Systems, make and implement decisions on risk mitigation accordingly, in which enable its business to achieve a better performance. Further, the internal control portion within the Systems aims to offer a clear guidelines for each business unit to clarify the internal control objectives of each key business process and conduct regular review of the effectiveness of control activities adopted to achieve the control objectives.

Systems Structure and Communication Mechanism

The Board of the Company has been establishing the Audit Committee, which is currently comprised of 3 independent non-executive directors. Members of the Audit Committee have extensive experiences in the industry and ensure their full independence. The Company has also established and published the Terms of Reference for the Audit Committee, which expressly specifies the authorities and responsibilities of the Audit Committee, in accordance with the Listing Rules.

The Company has been adopting risk management and internal control systems at different levels of the Board, the senior management, the management center and its subsidiaries. The internal audit department is responsible for the overall planning and arrangement to carry out appraisal of the adequacy and effectiveness of internal control and risk management systems performed by the management center and the subsidiaries. Positions in relation to risk management and internal control are in place in some subsidiaries, which are responsible for organizing and carrying out specific work in risk management and internal control.

For the purpose of continuous monitoring of risk management and internal control by the Board and the management, the Company has established various communication channels, ensuring that relevant information is circulated in a timely and accurate manner among the Board and the management, and providing the Board with confirmation of implementation status on the Systems from the management:

- The internal audit department conducts risk assessment semi-annually. A comprehensive risk assessment questionnaire is completed by senior personnel of major business units respectively. Each risk assessment questionnaire is submitted to the internal audit department for consolidation, analysis and preparation of a risk assessment report. Major risk items are reported to the Board and management on a regular basis for oversight of the risk management; and

- The internal audit department reports regularly to the management, the Audit Committee and the Board with respect to risk management and internal control, ensuring the Board having known sufficient information for the fulfillment of its continuous responsibility for supervision.

Review Procedure for Systems Effectiveness

The Audit Committee of the Company, on behalf of the Board, makes a comprehensive assessment of the effectiveness of risk management and internal control systems at least semi-annually. The Audit Committee has strictly implemented the supervision function of risk management and internal control during the year ended 31 December 2022 (the "Year") in the following specific procedures:

- reviewed financial controls, internal control and risk management systems of the Company;

- discussed the risk management and internal control systems with the management to ensure that the management has performed its duty to have effective internal control and risk management systems. The discussion included whether the resources, staff qualification and experience, training and relevant budget of the Company in accounting, internal audit, and financial reporting functions, as to whether their relevant employee is sufficient or not;

- considered major investigation findings on risk management and internal control matters on its own initiative or as delegated by the Board and research on the management's response to these findings;

- ensured coordination between the internal and external auditors, and also ensure the internal audit function is sufficiently resourced and properly in place inside the Company, and review and supervise its effectiveness; and

- reported to the Board in relation to matters regarding code provision D.3 of the Corporate Governance Code.

The management of the Company takes responsibilities for implementing risk management and internal control systems on an on-going basis and reporting the implementation position to the Audit Committee and the Board at least semi-annually. The management has primarily conducted the following works in relation to risk management and internal control during the Year:

- The Company has been establishing an internal audit policy to clearly define the scope, duties and responsibilities, as well as reporting protocol of its internal audit function;

- The Company has established a unified risk framework and completed risk pool, and carried out internal risk examination and risk assessments on a regular basis;

- The Company has carried out relevant activities to analyze and monitor the major risks, in terms of strategic, operational, financial, marketing, technological and compliance aspects, in responses to the recent changes in the policies of the photovoltaic industry in mainland China;

- The Company has carried out quantitative risk management regularly with the aim of optimising quantitative risk measurement indexes to support the risk assessment and risk monitoring procedures;

- The Company has conducted review of internal control system through combination of quantitative self-assessment by the business units and qualitative evaluation by the internal audit department, so as to continuously monitored the operation of the internal control system;

- The Company has established risk-oriented internal audit work, effectively carried out the annual internal audit in accordance with the approved internal audit plan, regularly communicated with, and reported to, the management and the Audit Committee about significant findings from the annual internal audit; and

- The Company has appointed an independent professional consultant (the "External Consultant") to assist the Audit Committee and the Board in conducting an independent review of the risk management and internal control systems of the Group for the Year.

The Audit Committee and the Board performed analysis and appraisal of the effectiveness and adequacy of the risk management and internal control systems of the Group through the outcome of the abovementioned review performed by the internal audit department and the External Consultant, considered and were of the opinion that the Group has maintained adequate and effective risk management and internal control systems for the Year.

Significant Risks and Management Program

During the Year, the Company has performed overall risk assessment, updated risk register and analyzed changes in risk result in previous year. Significant risks were identified below which need constant attention. Part of the mitigation measures adopted by the Group in relation to significant risks are set forth below:

- To cope with keen market competition in the photovoltaic industry, the Group would continuously promote low-energy-consumption granular silicon products, create a low-carbon industrial ecology, improve the quality and cost control of granular silicon, optimize the technical process of large-size silicon wafers, and sign long-term contracts with customers to strengthen the competitiveness of its own products;
- To cope with the pressure on revenue supporting large production capacity, the Group would develop oversea market vigorously and improve quality of product in response to customer's need promptly; and
- To cope with the risk of core technicians poached by opponents, the Group would continue to offer competitive staff welfare so as to attract university graduates as well as provide training align with the international business development of the Group so as to improve the technical skills of core technicians.

Internal Controls for Handling Inside Information

An inside information committee has been set up since November 2012, which is currently comprises all executive Directors. The committee's principal function is to determine whether any confidential information arises from time to time is inside information or not. If the committee recognizes that the information constitutes inside information, it will report to the Board and recommend timely disclosure of such information pursuant to the relevant provisions under the Securities and Futures Ordinance and the Listing Rules. A monthly report of potential inside information, where appropriate, will be provided to the committee for continuous monitoring. A policy of inside information has been provided to the senior management of the Group for implementation. The senior management are encouraged to report to their superiors or the committee directly, in case of any incidents or information that constitutes as potential inside information when performing their duties.

REMUNERATION OF DIRECTORS AND SENIOR MANAGEMENT

REMUNERATION COMMITTEE

The Remuneration Committee comprises two INEDs and one executive Director, namely Ir. Dr. Ho Chung Tai, Raymond (chairman of the committee), Mr. Yip Tai Him and Mr. Zhu Yufeng. The Board resolved to adopt that the Remuneration Committee has the duty to determine, with delegated responsibility, the remuneration packages of individual executive Directors and senior management. A copy of the terms of reference setting out the operation, authorities and responsibilities of the Remuneration Committee is available at the Company's and the Stock Exchange's websites.

The primary responsibilities of the Remuneration Committee include:

- determining, with delegated responsibility, the remuneration packages of individual executive Directors and senior management;
- making remuneration recommendations of non-executive Directors to the Board;
- recommending the remuneration policy and structure for all Directors and senior management to the Board for approval;
- reviewing and approving the compensation arrangement to executive Directors and senior management for any loss or termination of officer appointment to ensure that it is consistent with contractual terms and is fair and not excessive; and
- reviewing and approving matters relating to share schemes under chapter 17 of the Listing Rules.

Five meetings were held by the Remuneration Committee during the year 2022 and the attendance is set out in the following table:

Members of Remuneration Committee	**Number of meetings attended/held**
Ho Chung Tai, Raymond *(Chairman)*	5/5
Yip Tai Him	5/5
Zhu Yufeng	5/5

The Remuneration Committee had performed the following work during the year ended 31 December 2022 and up to the date of this report:

i. reviewed and recommended the Board on the remuneration policy of the executive Directors and senior management of the Company;
ii. reviewed, considered and approved the remuneration package of the existing executive Directors;
iii. approved the adjustment of remuneration of the executive Directors; and
iv. reviewed and made recommendation to the Board on the granting of share awards to the executive Director and employee.

NOMINATION COMMITTEE

The Nomination Committee comprises two INEDs, namely Mr. Yip Tai Him (chairman of the committee) and Ir. Dr. Ho Chung Tai, Raymond, and an executive Director, namely Mr. Yeung Man Chung, Charles. A copy of the terms of reference setting out the operation, authorities and responsibilities of the Nomination Committee is available at the Company's and the Stock Exchange's websites.

The duties of the Nomination Committee include reviewing the structure, size and composition of the Board at least annually and make recommendations on any proposed changes to the Board, identifying and making recommendations to the Board on the selection of individual nominated for directorships, assessing the independence of INEDs, and making recommendations to the Board on the appointment or re-appointment of Directors and succession planning for Directors.

Three meetings were held by the Nomination Committee during the year 2022, the attendance is set out in the following table:

Members of Nomination Committee	**Number of meetings attended/held**
Yip Tai Him *(Chairman)*	3/3
Ho Chung Tai, Raymond	3/3
Yeung Man Chung, Charles	3/3

During the meeting, the committee had reviewed, assessed or made recommendations to the Board (where suitable) on (i) the independence of the INEDs against the criteria and guidelines as set out in Rule 3.13 of the Listing Rules and concluded that all INEDs had complied with the criteria; (ii) the composition of the existing Board members with reference to their age, sex, experience, qualification and expertise against the business scope of the Company and (iii) succession plan.

NOMINATION POLICY

The Company adopted a nomination policy (the "Nomination Policy") and board diversity policy ("Board Diversity Policy"), with effect from 1 January 2019. A summary of the Nomination Policy is set out as follows:

1. Selection Criteria

The factors listed below would be used as reference by the Nomination Committee in assessing the suitability of a proposed candidate:

- Reputation for integrity
- Accomplishment and experience relevant in the principal activities of the group or photovoltaic and related industry
- Commitment in respect of available time and relevant interest
- Diversity in all its aspects, including but not limited to gender, age, cultural and educational background, ethnicity, professional experience, skills, knowledge and length of service

These factors are for reference only, and not meant to be exhaustive and decisive. The Nomination Committee has the discretion to nominate any person, as it considers appropriate.

2. Nomination Procedures

1 The Secretary of the Nomination Committee shall call a meeting of the Nomination Committee, and invite nominations of candidates from Board members if any, for consideration by the Nomination Committee prior to its meeting. The Nomination Committee may also put forward candidates who are not nominated by Board members.

2 For filling a casual vacancy, the Nomination Committee shall make recommendations for the Board's consideration and approval.

3 Until the issue of the Members' circular, the nominated persons shall not assume that they have been proposed by the Board to stand for election at the general meeting.

BOARD DIVERSITY POLICY

With a view to achieving a sustainable and balanced development, the Company sees increasing diversity at the Board level as an essential element in supporting the attainment of its strategic objectives and its sustainable development. In designing the Board's composition, Board diversity has been considered from a number of aspects, including but not limited to gender, age, cultural and educational background, ethnicity, professional experience, skills, knowledge and length of service. All Board appointments will be based on meritocracy, and candidates will be considered against objective criteria, having due regard for the benefits of diversity on the Board.

A summary of the Board Diversity Policy is set out as follows:

Selection of candidates will be based on a range of diversity perspectives, including but not limited to gender, age, cultural and educational background, ethnicity, professional experience, skills, knowledge and length of service. The ultimate decision will be based on merit and contribution that the selected candidates will bring to the Board, having due regard to the benefits of diversity on the Board and also the needs of the Board without focusing, on a single diversity aspect. The Company will not consider diversity to be achieved for a single gender board.

- The Board would ensure that appropriate balance of gender diversity is achieved with the ultimate goal of bringing the Board to gender parity. The Board shall include at least one female director. The Board's composition (including but not limited to gender, ethnicity, cultural, age, educational background, professional experience, or length of service) will be disclosed in the Corporate Governance Report annually.
- The Board focuses on the capability of operation judgment, operation management and crisis management, so more than two-thirds of the Board be capable of the ability of relevant core businesses.
- The Company should arrange continuing diversified development for directors so as to improve their decision-making quality, fulfill their supervisory responsibilities, and strengthen the functions of the Board.
- In addition to the Board level, the Company also advocates gender diversity across the workforce (including senior management). A plans or measurable goals to achieve an appropriate balance between the composition of men and women should be established.

The Company considers that the current composition of the Board, one out of its nine members being female, is characterised by diversity, whether considered in terms of gender, cultural, professional background and skills. The current Directors have extensive experience and skills relevant to the business of the Company.

The Board targets to maintain at least one female member, with the ultimate goal of achieving a diversity gender senior management. The Board will continue to seek opportunities to increase the proportion of female members over time as and when suitable candidates are identified.

The Company will continue to take, steps to promote diversity at all levels of its workforce. Opportunities for employment, training and career development are equally opened to all eligible employees without discrimination. At the date of this report, the total workforce of the Group comprised approximately 78.41% male and 21.59% female. Further details of gender ratio and labour force, please refer to "Environmental, Social and Governance Report".

The Nomination Committee will review this Policy annually, to ensure the effectiveness of this Policy. The Nomination Committee will discuss any revisions that may be required, and recommend any such revisions to the Board for consideration and approval.

The Nomination Committee will monitor the implementation of this Policy by conducting review of the Board's composition at least once annually taking into account the benefits of all relevant diversity aspects, and adhering to this Policy when making recommendation on any Board appointments. The Nomination Committee will also ensure that Board diversity is considered as part of the evaluation of the Board's effectiveness.

OTHER COMMITTEE

Strategy and Investment Committee

During the year, the Strategic and Investment Committee comprised six members, three INEDs (Ir. Dr. Ho Chung Tai, Raymond (who is also the chairman of the committee), Mr. Yip Tai Him and Dr. Shen Wenzhong) and three executive Directors (Mr. Zhu Gongshan, Mr. Zhu Zhanjun and Mr. Yeung Man Chung, Charles). A copy of the terms of reference setting out the operation, authorities and responsibilities of such committee is available at the Company's and the Stock Exchange's websites.

The primary responsibilities of the Strategy and Investment Committee include:

- reviewing long-term strategic development plans;
- reviewing the annual performance of the Company and assessing implementation and progress of the long term strategic development plans;
- reviewing and recommending to the Board on opportunities of upgrading the facilities, expansion, mergers and acquisitions;
- reviewing and recommending to the Board with regard to the political, social and economic development in the PRC affecting or potentially affecting the business activities of the Group;
- reviewing and monitoring the relationship of the Company with its key strategic joint-venture partners or the relationship building with these partners; and
- reviewing, evaluation and recommendation to the Board of any significant investment and disposal proposals.

During the year, the Strategy and Investment Committee (i) reported to the Board and reviewed the long-term strategic development plan of the Group; and (ii) reviewed certain investment proposals and reported to the Board of its conclusion at the Board meeting from time to time.

CORPORATE GOVERNANCE COMMITTEE

The Corporate Governance Committee comprises two INEDs, namely Ir. Dr. Ho Chung Tai, Raymond (chairman of the committee) and Mr. Yip Tai Him and an executive Director, namely Mr. Yeung Man Chung, Charles. A copy of the terms of reference setting out the operation, authorities and responsibilities of the Corporate Governance Committee is available at the Company's website.

The duties of the Corporate Governance Committee includes:

- developing and reviewing the Company's policies and practices on corporate governance and make recommendations to the Board;
- reviewing and monitoring the training and continuous professional development of Directors and senior management;
- reviewing and monitoring the Company's policies and practices on compliance with legal and regulatory requirements;
- developing, reviewing and monitoring the code of conduct applicable to employees and Directors; and
- reviewing the Company's compliance with the Code and disclosure in the Corporate Governance Report.

Six meetings were held by the committee during the year 2022 and up to the date of this report, the attendance is set out in the following table:

Members of Corporate Governance Committee	**Number of meetings attended/held**
Ho Chung Tai, Raymond *(Chairman)*	6/6
Yip Tai Him	6/6
Yeung Man Chung, Charles	6/6

The committee had reviewed and evaluated the effectiveness of (i) the performance of certain policies and practices adopted by the Company, including the whistle-blowing policy, the inside information policy and discloseable transaction policy and connected transaction policy; (ii) the Board committees, including the Audit Committee, Remuneration Committee, Nomination Committee, Strategy and Investment Committee and Environmental, Social and Governance Committee; (iii) the policy in relation to the training and continuous professional development of Directors and senior management; (iv) the constitution, authority and responsibilities of the Strategy and Investment Committee which mainly deals with the investment proposals and make recommendations to the Board; and (v) the report on whistle-blowing policy. The committee concluded the adopted policies are effective.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE COMMITTEE

Environmental, Social and Governance Committee comprises three INEDs, namely Dr. Shen Wenzhong (chairman of the committee), Ir. Dr. Ho Chung Tai, Raymond, Mr. Yip Tai Him and an executive Director namely Mr. Yeung Man Chung, Charles. A copy of the terms of reference setting out the operation, authorities and responsibilities of Environmental, Social and Governance Committee is available at the Company's and the Stock Exchange's websites.

The duties of the Environmental, Social and Governance Committee includes:

- recommending and reviewing the Group's ESG management policies, vision, strategies and goals for the Board's approval;
- determining the criteria of selecting material ESG factors, identifying and continuously reviewing the list of material ESG factors, and determining the risks and opportunities that material ESG factors will bring to the Group (the "Materiality Assessment") with the assistance of the ESG Working Group. When conducting the Materiality Assessment, the Committee shall fully consider the Group's strategies and current market conditions;
- monitoring the ESG Working Group to develop and implement external stakeholder engagement plans, as well as review and conduct the Materiality Assessment on the basis of investors' and stakeholders' opinions;
- approving ESG-related policies and practices drafted by the Company;
- reviewing and monitoring the Group's policies and practices in relation to material ESG topics and ensure that they are appropriate in the context of the size, business nature and scope of the Group; and
- evaluating and reviewing the applicability of policies related to material ESG topics of the Group once a year or as and when required, report to and provide amendment suggestions for the Board to ensure that they remain relevant and fit for purpose and compliant with the applicable legal and regulatory requirements and international standards.

A meeting was held by the Environmental, Social and Governance Committee during the year 2022 and up to the date of this report, the attendance is set out in the following table:

Members of Environmental, Social and Governance Committee	**Number of meetings attended/held**
Shen Wenzhong *(Chairman)*	1/1
Ho Chung Tai, Raymond	1/1
Yip Tai Him	1/1
Yeung Man Chung, Charles	1/1

The committee had reviewed and evaluated the effectiveness of (i) the Group's ESG management policies, vision, strategies and goals with the assistance of management; (ii) provided advice on the actions to be taken to enhance the effectiveness of ESG management; and (iii) reviewed the annual ESG Report (the "ESG Report") to ensure that the ESG Report has properly disclosed ESG risks faced by the Group, the measures taken and the progress of goals achieved in compliance with the Listing Rules, and make recommendation to the Board for the approval of the ESG Report.

DIVIDEND POLICY

The Company has adopted a dividend policy (the "Dividend Policy"). The Board would consider the following factors before declaring or recommending dividend to the Shareholders from time to time:

(a) financial results of the Company;
(b) Shareholders' interests;
(c) general business conditions, strategies and future expansion needs;
(d) the Company's capital requirements;
(e) the payment of cash dividends to the Company from its subsidiaries;
(f) possible effects on liquidity and financial position of the Company; and
(g) the amount of profit can be distributed under applicable accounting standards and other factors that the Board may deem relevant and appropriate.

Any dividend declared by the Company shall be conducted in accordance with the Cayman Islands Companies Law, the Memorandum and Articles of the Company and other applicable laws and regulations, and shall not affect the normal operation of the Company and its subsidiaries.

The Board will review the Dividend Policy, as appropriate, which will include an assessment of the effectiveness of the Dividend Policy and approve any amendments thereto if necessary.

COMPLIANCE WITH MODEL CODE

The Board has adopted the model code with terms no less exacting than the required standard as set out in Appendix 10 of the Listing Rules as its own model code of conduct regarding Directors' securities transactions (the "Model Code"). Having made specific enquiry of all Directors, all Directors confirmed that they have complied with the required standard of dealings as set out in the Model Code throughout the year ended 31 December 2022.

INVESTOR RELATIONS AND COMMUNICATION WITH SHAREHOLDERS

The Board recognizes the importance of communication with shareholders and has adhered to its established communication policy. The general communication policy includes timely dispatch full and accurate information to shareholders and investment public by announcement, financial reports and circulars through the website of the Stock Exchange and the Company's website; maintain dialogue with shareholders by disclosing the way of communication to the Board and in relation to share registration matters, the contact of the share registrar in Hong Kong; and by convening the general meetings (if any) and annual general meeting. On 31 May 2022, the Company convened an annual general meeting. At the meeting, the Directors, members and/or chairman of the Board committees had attended and answer questions raised by the shareholders.

Directors and our Investor Relations team also communicated from time to time with analysts, fund managers, institutional shareholders and media while keeping the stringent standard of not disclosing inside information to any selective group. The Directors, executives together with our Investor Relations team held/participated in meetings, presentations and conference with them. Details of investor relations activities were further described under the section headed "Major Investor Relations Activities" of this report.

The Company's Articles of Association was amended during the year. A copy of the Articles of Association is available at the websites of the Stock Exchange and the Company.

SHAREHOLDERS' RIGHTS

Procedures for members to convene extraordinary general meeting ("EGM") and putting forward proposals

The following procedures are subject to the Company's Articles of Association and applicable legislation and regulation.

1. Pursuant to Article 58 of the Articles of Association of the Company, any one or more members of the Company holding at the date of deposit of the requisition not less than one-tenth of the paid up capital of the Company carrying the right of voting at general meetings of the Company shall at all times have the right, by written requisition to the Board or the Company Secretary, to require an EGM to be called by the Board for the transaction of any business specified in such requisition; and such meeting shall be held within two months after the deposit of such requisition.

2. If within twenty-one days of such deposit the Board fails to proceed to convene such meeting, the requisitionist(s) himself (themselves) may do so in the same manner, and all reasonable expenses incurred by the requisitionist(s) as a result of the failure of the Board shall be reimbursed to the requisitionist(s) by the Company.

3. The requisitionist(s) shall deposit his/their requisition together with the proposals to be considered at such meeting at the principal place of business of the Company at Unit 1703B–1706, Level 17, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong or at any address notified by the Company from time to time and for the attention of the Chairman of the Board and the Company Secretary.

4. If the requisition is in order, the Company Secretary will ask the Board to convene an EGM by serving sufficient notice in accordance with the requirements under the Articles of Association to all the registered members. On the contrary, if the requisition is invalid, the members concerned will be advised of this outcome and accordingly, an EGM will not be convened as requested.

5. The notice period to be given to all the registered members for consideration of the proposal raised by the member(s) concerned at an EGM varies according to the nature of the proposal, as follows:

   — at least twenty-one (21) clear days' notice in writing if the proposal constitutes a special resolution of the Company, which cannot be amended other than to a mere clerical amendment to correct a patent error; and

   — at least fourteen (14) clear days' and not less than ten (10) clear business days' notice in writing if the proposal constitutes an ordinary resolution of the Company.

Members who have enquiries about the above procedures may write to the Company Secretary at Unit 1703B–1706, Level 17, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong or at any address notified by the Company from time to time.

Procedures for a Member to Propose a Person for Election as a Director

The following procedures are subject to the Company's Articles of Association and applicable legislation and regulation.

1. If a member, who is duly qualified to attend and vote at the general meeting convened to deal with appointment/election of director(s), wishes to propose a person (other than the member himself/herself) for election as a director at that meeting, he/she can deposit a written notice at the Company's principal office at Unit 1703B–1706, Level 17, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong, or at any address notified by the Company from time to time for the attention of the Company Secretary of the Company.

2. In order for the Company to inform all members of that proposal, the written notice must state the full name of the person proposed for election as a director, his/her biographical details as required by Rule 13.51(2) of the Listing Rules, and be signed by the member concerned and that person indicating his/her willingness to be elected.

3. The period for lodgment of such a written notice will commence on the day after the despatch of the notice of the general meeting and end no later than seven (7) clear days prior to the date of such general meeting. If the notice is received less than fifteen (15) business days prior to that general meeting (twenty (20) business days in case of annual general meeting), the Company will need to consider adjournment of the general meeting in order to (i) assess the suitability of the proposed candidate; and (ii) publish an announcement or circulate a supplementary circular in relation to the proposal to the members at least fourteen (14) clear days and not less than ten (10) business days prior to the general meeting (twenty (20) business days in case of annual general meeting).

Members who have enquiries about the above procedures may write to the Company Secretary at Unit 1703B–1706, Level 17, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong or at any address notified by the Company from time to time.

ENQUIRIES TO THE BOARD

No procedure set in the Articles of Association of the Company is available for any member to put forward an enquiry to the Board. A member may, of course, at any time write to the board of directors of the Company at the Company's principal office at Unit 1703B–1706, Level 17, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong or at any address notified by the Company from time to time. In relation to share registration matters in Hong Kong, a member shall contact the branch share registrar in Hong Kong, namely Tricor Investor Services Limited at 17/F, Far East Finance Centre, 16 Harcourt Road, Hong Kong.

REPORT OF THE DIRECTORS

The directors of the Company (the "Directors" or the "Board") submit their report together with the audited consolidated financial statements of GCL Technology Holdings Limited (the "Company") and its subsidiaries (collectively the "Group") for the year ended 31 December 2022.

PRINCIPAL ACTIVITIES

The principal activities of the Group during the year 2022 are principally engaged in the manufacturing and sale of polysilicon and wafers products, and developing, owning and operation of solar farms.

The particulars of the Group's principal subsidiaries, interests in associates and interests in joint ventures are set out in notes 55, 20 and 21 of the consolidated financial statements, respectively.

BUSINESS REVIEW

The Group's revenue is derived principally from the sales of polysilicon, wafer and electricity, which is primarily conducted in the PRC. An analysis of the Group's performance for the year by operating segment is set out in note 6 to the consolidated financial statements.

A fair review of the Group's business, including the important events affecting the Group that have occurred since the end of 2022 and the likely future developments of the Group's business, is set out in the Chairman's Statement, CEO's Review of Operations and Outlook, and the Management Discussion and Analysis sections on pages 14 to 42 of this report. Potential risks and uncertainties faced by the Group are set out in the Management Discussion and Analysis section on pages 39 to 40 of this report, reviewed and assessed by the Board, which was set out in the Corporate Governance Report under the Risk Management and Internal Controls section on pages 58 to 61. Details about the Group's financial risk management are set out in note 44 to the consolidated financial statements.

There was no incidence of non-compliance with the relevant laws and regulations in relation to the operations that have a significant impact on the Group's business.

COMPLIANCE WITH LAWS AND REGULATIONS

As far as the Board and management are aware, the Group has complied in material aspects with the relevant laws and regulations that have a significant impact on the business and operation of the Group. During the reporting period, there was no material breach of or non-compliance with the applicable of relevant laws and regulations by the Group.

The Company's environmental policies and performance are set out in the Corporate Environmental Policies and Performance section on pages 44 to 45 of this report.

RESULTS AND APPROPRIATIONS

The results of the Group for the year ended 31 December 2022 are set out in the consolidated statement of profit or loss and other comprehensive income from pages 102 to 104.

SPECIAL INTERIM DIVIDEND

On 30 August 2022, a conditional special interim dividend was declared by the Board of the Company which was satisfied through a distribution in specie of 8,639,024,713 ordinary shares of GNE ("DIS shares") (approximately 31% of the issued capital of GNE) on the basis of 318 GNE shares for every 1,000 shares of the Company held by the shareholders of the Company ("Distribution in Specie"). The resolutions in relation to Distribution in Specie were passed by shareholders of the Company at the extraordinary general meeting of the Company held on 22 September 2022 and the DIS shares were distributed to the shareholders of the Company during the year ended 31 December 2022.

FINAL DIVIDEND

The Board recommended the payment of a final dividend of HK$0.06 per share for the year ended 31 December 2022 (2021: nil)，which will be payable on or about 29 June 2023 to all persons registered as holders of ordinary shares of the Company on 8 June 2023 subject to approval at the forthcoming annual general meeting. The register of members will be closed from 5 June 2023 to 8 June 2023, both dates inclusive.

FINANCIAL SUMMARY

A summary of the consolidated results and of the assets and liabilities of the Group for the last five financial years is set out on page 2.

PROPERTY, PLANT AND EQUIPMENT

Movements in the property, plant and equipment of the Group during the year are set out in note 16 to the consolidated financial statements.

SHARE CAPITAL

Details of movements in the issued share capital of the Company during the year are set out in note 40 to the consolidated financial statements.

DISTRIBUTABLE RESERVES

The distributable reserves of the Company as at 31 December 2022 amounted to approximately RMB40,282 million (2021: approximately RMB27,549 million).

BANK AND OTHER BORROWINGS

Particulars of the Group's bank and other borrowings are set out in note 36 to the consolidated financial statements.

DONATIONS

Donations by the Group for charitable and other purposes as at 31 December 2022 amounted to approximately RMB13,210,000 (2021: approximately RMB180,000).

EQUITY-LINKED AGREEMENTS

Save for the share option schemes and the share award scheme described below with details of movements set out in note 49 to the consolidated financial statements, no equity–linked agreements were entered into by the Group during the year ended 31 December 2022, or subsisted at the end of the year 2022.

DIRECTORS

The directors of the Company during the year and up to the date of this report are:

Executive Directors

Mr. Zhu Gongshan *(Chairman)*
Mr. Zhu Yufeng *(Vice Chairman)*
Mr. Zhu Zhanjun *(Vice Chairman and Joint CEO)*
Mr. Lan Tianshi *(Joint CEO)*
Ms. Sun Wei
Mr. Yeung Man Chung, Charles *(Chief Financial Officer and Company Secretary)*
Mr. Zheng Xiongjiu *(resigned on 18 August 2022)*

Independent Non-executive Directors

Ir. Dr. Ho Chung Tai, Raymond
Mr. Yip Tai Him
Dr. Shen Wenzhong
Mr. Wong Man Chung, Francis *(resigned on 31 May 2022)*

Mr. Zhu Zhanjun has been appointed as the Vice Chairman and re-designated as a Joint CEO; and Mr. Lan Tianshi has been appointed as an executive Director and a Joint CEO with effect from 21 February 2022.

Mr. Wong Man Chung, Francis has resigned as an independent non-executive Director of the Company with effect from 31 May 2022, as he intended to devote more time to his other work commitments. For the details of resignation of Mr. Wong Man Chung, Francis, please refer to the Company's announcement dated 31 May 2022.

Mr. Zheng Xiongjiu has resigned as an executive Director of the Company with effect from 18 August 2022, as he intended to focus and devote more time on his other work commitments outside of the Company and its subsidiaries. For the details of resignation of Mr. Zheng Xiongjiu, please refer to the Company's announcement dated 18 August 2022.

Mr. Zhu Yufeng has been appointed as the Vice Chairman with effect from 9 September 2022.

In accordance with Articles 87(1) and (2) of the Articles of Association of the Company, Mr. Zhu Yufeng, Mr. Zhu Zhanjun and Dr. Shen Wenzhong will retire at the forthcoming annual general meeting and, being eligible, offer themselves for re-election.

The Company has received from each of its independent non-executive Directors an annual confirmation of his independence pursuant to Rule 3.13 of the Listing Rules. The Company has assessed their independence and considers that all the independent non-executive directors are independent in accordance with guidelines set out in the Listing Rules.

DIRECTORS' SERVICES CONTRACTS

Each of the independent non-executive directors has entered into a service contract with the Company for a fixed term of three years and will be terminated by not less than three months' notice in writing served by either party on the other. Upon the expiry of the notice period, the appointment will be terminated.

No Director proposed for re-election at the forthcoming annual general meeting has entered into any service agreements with any member of the Group which is not determinable within one year without payment of compensation, other than statutory compensation.

DIRECTORS' INTEREST IN CONTRACTS

Save as disclosed under the section headed "Connected Transactions and Continuing Connected Transactions" in this report of the Directors, no Director had a material interest, either directly or indirectly, in any contract of significance to the business of the Group to which the Company or any of its subsidiaries was a party, and which subsisted at the end of the year or at any time during the year.

PERMITTED INDEMNITY PROVISION

Subject to the applicable laws, every Directors, Company Secretary and other officers of the Company shall be indemnified out of the assets and profits of the Company against all actions, costs, charges, losses, damages and expenses incurred by him or her in the execution of his or her duties or in relation thereto pursuant to the Company's Articles of Associations, provided that this indemnity shall not extend to any matter in respect of any fraud or dishonesty which may attach to any of said persons. Such provisions were in force during the course of the financial year ended 31 December 2022 and remained in force as of the date of this report.

DIRECTORS' AND CHIEF EXECUTIVE'S INTERESTS AND SHORT POSITIONS IN SHARES, UNDERLYING SHARES AND DEBENTURES OF THE COMPANY AND ASSOCIATED COMPANY

As at 31 December 2022, the Directors and chief executive of the Company had the following interests and short positions in the shares, underlying shares and debentures of the Company or any of its associated corporations (within the meaning of Part XV of the Securities and Futures Ordinance (the "SFO"), which were required (a) to be notified to the Company and the Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests and short positions which they are taken or deemed to have under such provisions of the SFO); or (b) to be and were entered into the register required to be kept by the Company pursuant to Section 352 of the SFO; or (c) as otherwise notified to the Company and the Stock Exchange pursuant to the Model Code for Securities Transactions by Directors of Listed Issuers (the "Model Code") of the Listing Rules:

Long position/short position in the shares and underlying shares of the Company:

		Number of ordinary shares held					
Name of Director/ chief executive	**Long/Short position**	**Beneficiary of a trust**	**Corporate interests**	**Personal/ Family interests**	**Number of underlying Shares held**	**Total**	**Approximate percentage of issued share capital (note 5)**
Zhu Gongshan	Long position	6,405,332,156 (note 1)	—	—	6,300,000 (note 2)	6,411,632,156	23.65%
	Short position	240,000,000 (note 3)	—	—	—	—	0.88%
Zhu Yufeng	Long position	6,405,332,156 (note 1)	—	—	5,010,755 (notes 2 & 4)	6,410,342,911	23.64%
	Short position	240,000,000 (note 3)	—	—	—	—	0.88%
Zhu Zhanjun	Long position	—	—	3,400,000	6,019,359 (notes 2 & 4)	9,419,359	0.03%
Lan Tianshi	Long position	—	—	1,500,000	9,390,000 (note 4)	10,890,000	0.04%
Sun Wei	Long position	—	—	5,723,000	5,012,189 (notes 2 & 4)	10,735,189	0.03%
Yeung Man Chung, Charles	Long position	—	—	—	4,700,000 (notes 2 & 4)	4,700,000	0.01%
Ho Chung Tai, Raymond	Long position	—	—	—	1,507,170 (notes 2 & 4)	1,507,170	0.00%
Yip Tai Him	Long position	—	—	—	1,507,170 (notes 2 & 4)	1,507,170	0.00%
Shen Wenzhong	Long position	—	—	—	500,000 (note 4)	500,000	0.00%

Notes:

(1) An aggregate of 6,405,332,156 shares of the Company are collectively held by Highexcel Investments Limited, Happy Genius Holdings Limited and Get Famous Investments Limited, which are wholly-owned by Golden Concord Group Limited, which in turn is wholly-owned by Asia Pacific Energy Holdings Limited. Asia Pacific Energy Holdings Limited is in turn wholly-owned by Asia Pacific Energy Fund Limited. Asia Pacific Energy Fund Limited is ultimately held under a discretionary trust with Credit Suisse Trust Limited as trustee and Mr. Zhu Gongshan and his family (including Mr. Zhu Yufeng, a Director of the Company and the son of Mr. Zhu Gongshan) as beneficiaries.

(2) These are share options granted by the Company to the Directors, pursuant to the share option scheme adopted by the shareholders of the Company on 22 October 2007. Such granted share options can be exercised by the Directors at various intervals during the period from 15 March 2016 to 28 March 2026 at an exercise price of HK$1.160 or HK$1.324.

(3) The short position was held as a result of an equity of derivative agreement entered by Happy Genius Holdings Limited.

(4) These are award shares granted by the Company to the Directors, pursuant to the share award scheme adopted by the Company on 16 January 2017.

(5) The total number of ordinary shares of the Company in issue as at 31 December 2022 is 27,108,497,973.

SHARE SCHEMES

SHARE OPTION SCHEME

2007 Share Option Scheme

The Company adopted a share option scheme (the "2007 Share Option Scheme") on 22 October 2007 which became effective on 13 November 2007. The purpose of the 2007 Share Option Scheme is to motivate personnel to optimize their future contributions to the Group and/or to reward them for their past contributions, to attract and retain or otherwise maintain on-going relationships with such personnel who are significant to and/or whose contributions are or will be beneficial to the performance, growth or success of the Group, and additionally in the case of executives of the Company, to enable the Group to attract and retain individuals with experience and ability and/or to reward them for their past contributions. The 2007 Share Option Scheme shall be valid and effective for a period of 10 years from 22 October 2007, after which no further options will be granted or offered but the provisions of the 2007 Share Option Scheme shall remain in full force and effect to the extent necessary to give effect to the exercise of any subsisting options granted prior to the expiry of the 10-year period or otherwise as may be required in accordance with the provisions of the 2007 Share Option Scheme. Since no further options could be granted or offered under the 2007 Share Option Scheme after its expiry in 2017, the number of shares available for issue under the 2007 Share Option Scheme are the same as the number of outstanding options, i.e. 44,832,763, representing approximately 0.17% of the number of issued shares as of the date of this annual report.

The eligible participants of the 2007 Share Option Scheme cover directors and management of the Group.

Upon expiry of the 2007 Share Option Scheme, no further options could be granted or offered but the provisions of this scheme shall remain in full force for the granted share options and remained outstanding. The total number of shares in respect of which options may be granted under the 2007 Share Option Scheme are not permitted to exceed 10% of the shares of the Company in issue at any point in time, without prior approval from the Company's shareholders. The number of shares issued and to be issued in respect of which options granted and may be granted to any individual in any one year is not permitted to exceed 1% of the shares of the Company in issue at any point in time, without prior approval from the Company's shareholders.

At an extraordinary general meeting of the Company held on 26 November 2015, the shareholders of the Company approved the refreshment of the existing limit to an aggregate number of shares of the Company which may be allotted and issued pursuant to the exercise of options granted under the 2007 Share Option Scheme not exceeding 200,000,000 shares of the Company. During the year, no share options was granted, a total of 806,170 share options were lapsed and a total of 9,487,525 share options were exercised. The outstanding share options under the 2007 Scheme Option Scheme as at 31 December 2022 are 44,832,763 share options. Particular of the 2007 Share Option Scheme, including the fair value of the share option at the date of grant and weight average closing price of the shares on the exercise date are set out in note 49 to the consolidated financial statements.

Details of the share options outstanding and movements under the 2007 Share Option Scheme of the Company during the year are as follows:

				Number of options					
Name or category of participant	**Date of grant (note 1)**	**Exercise period**	**Exercise Price per share (HK$)**	**Outstanding as at 1.1.2022**	**Granted during the year**	**Lapsed or forfeited during the year**	**Cancelled during the year**	**Exercised during the year**	**Outstanding as at 31.12.2022**
Directors/chief executive and their associates									
Zhu Yufeng	29.3.2016	18.4.2016 to 28.3.2026	1.324	1,510,755	—	—	—	—	1,510,755
Zhu Zhanjun	29.3.2016	18.4.2016 to 28.3.2026	1.324	2,719,359	—	—	—	—	2,719,359
Sun Wei	19.2.2016	15.3.2016 to 18.2.2026	1.16	1,712,189	—	—	—	—	1,712,189
Yeung Man Chung, Charles	29.3.2016	18.4.2016 to 28.3.2026	1.324	1,700,000	—	—	—	—	1,700,000
Zheng Xiongjiu (note 2)	19.2.2016	15.3.2016 to 18.2.2026	1.16	2,517,924	—	—	—	(2,517,924)	0
Ho Chung Tai, Raymond	29.3.2016	18.4.2016 to 28.3.2026	1.324	1,007,170	—	—	—	—	1,007,170
Yip Tai Him	29.3.2016	18.4.2016 to 28.3.2026	1.324	1,007,170	—	—	—	—	1,007,170
Successor of Zhu Qingsong (note 3)	29.3.2016	18.4.2016 to 28.3.2026	1.324	1,007,170	—	—	—	—	1,007,170
Employees and others	5.7.2013	16.9.2013 to 4.7.2023	1.630	5,025,330	—	—	—	(523,374)	4,501,956
	24.3.2014	26.5.2014 to 23.3.2024	2.867	2,618,642	—	—	—	—	2,618,642
	19.2.2016	15.3.2016 to 18.2.2026	1.16	31,279,239	—	(806,170)	—	(5,841,925)	24,631,144
	29.3.2016	18.4.2016 to 28.3.2026	1.324	3,021,510	—	—	—	(604,302)	2,417,208
Total				**55,126,458**		**(806,170)**	**—**	**(9,487,525)**	**44,832,763**

Notes:

1 The vesting period under the 2007 Share Option Scheme is 20% of the share options granted on the year of grant, the first, second, third and fourth anniversary of the date of grant, respectively. All share options granted will be fully vested on the fourth anniversary of the date of grant.

2 Mr. Zheng Xiongjiu resigned as a director of the Company in August 2022.

3 Mr. Zhu Qingsong passed away in 2021.

2022 Share Option Scheme

The Company adopted a new share option scheme (the "2022 Share Option Scheme") on 9 March 2022 which became effective on 1 April 2022. The purpose of 2022 Share Option Scheme is to replace 2007 Share Option Scheme and to is to motivate personnel to optimise their future contributions to the Group and/or to reward them for their past contributions, to attract and retain or otherwise maintain on-going relationships with such personnel who are significant to and/or whose contributions are or will be beneficial to the performance, growth or success of the Group, and additionally in the case of directors (including independent non-executive directors) and executive of the Company, to enable the Group to attract and retain individuals with experience and ability and/or to reward them for their past contributions. The maximum number of shares in respect of which options which may be issued upon exercise of all options to be granted under the 2022 Share Option Scheme and any other schemes of the Company shall not exceed 10% of the Company's issued share capital on the date of the approval of the 2022 Share Option Scheme. The number of shares issued and to be issued in respect of which options granted and may be granted to any individual in any one year is not permitted to exceed 1% of the shares of the Company in issue at any point in time, without prior approval from the Company's shareholders.

As of the date this report, (i) no share options was granted under 2022 Share Option Scheme; and (ii) the total number of shares available for issue under 2022 Share Option Scheme is 2,709,901,044 Shares, representing approximately 10% of the Company's number of issued shares as of the date of this annual report. No share options were outstanding under 2022 Share Option Scheme as at 31 December 2022.

Under the 2022 Share Option Scheme, the exercise price shall be determined by the Board and notified to a proposed beneficiary at the time of offer of the option and shall be not less than whichever is the highest for (a) the nominal value of a share; (b) the closing price of the shares as stated in the Stock Exchange's daily quotation sheet on the date of grant; and (c) the average closing price of the shares as stated in the Stock Exchange's daily quotation sheet for the five business days immediately preceding the date of grant.

Under the 2022 Share Option Scheme, an option granted can only be exercised according to the following vesting schedule:

Vesting date	**Cumulative percentage of Share a Grantee is entitled to subscribe under Options granted to him/her**
1st anniversary of the Commencement Date	20%
2nd anniversary of the Commencement Date	40%
3rd anniversary of the Commencement Date	60%
4th anniversary of the Commencement Date	80%
5th anniversary of the Commencement Date	100%

Under the 2022 Share Option Schemes, the Company may grant options to directors, employees of the Company and its subsidiaries and qualifying grantees to subscribe for shares of the Company.

Unless otherwise terminated by the Board or the shareholders in general meeting in accordance with the terms of the 2022 Share Option Scheme, the 2022 Share Option Scheme shall be valid and effective for a period of 10 years from the date of its adoption date. The remaining life of the 2022 Share Option Scheme is around 9 years.

SHARE AWARD SCHEME

The Company has adopted a share award scheme (the "Share Award Scheme") on 16 January 2017. in which Eligible Persons will be entitled to participate and pursuant to which ordinary shares of the Company (the "Shares") may be purchased by the Trustee from the market out of cash contributed by the Group and/or the Company may allot and issue new Shares to the Trustee pursuant to a Specific Mandate and such Shares would be held upon trust for the relevant Grantees until such Award Shares are vested in accordance with the rules of the Scheme (the "Scheme Rules").

Purpose

The purpose of the Share Award Scheme is, through the grant of award(s) ("Award(s)") of award Share(s) ("Award Share(s)") to certain Eligible Persons, to effectively attract, retain and incentivise core employees of the Group and align their interests and growth with the Group as a whole.

Eligible Persons

The Eligible Person under the Share Award Scheme is any individual who is an employee of any Group Company, (including any director holding a salaried employment or office in any Group Company); however, no individual who is resident in a place where the grant, acceptance or vesting of an Award pursuant to this Scheme is not permitted under the laws and regulations of such place or where, in the view of the Board, compliance with applicable laws and regulations in such place makes it necessary or expedient to exclude such individual, shall be entitled to participate in this Scheme and such individual shall therefore be excluded from the term Eligible Person.

Shares Available for Issue

As at the date of this report, the Directors have not been authorized under any specific mandate granted by the Shareholders to allot and issue any Shares for the purpose of the Share Award Scheme. Accordingly, as at the date of this report, no new Share was available for issue under the Share Award Scheme.

Maximum Limit

The maximum number of Shares that can be held by the Trustee under the Share Award Scheme is limited to 2 per cent. of the total number of issued Shares from time to time.

The maximum number of Award Shares which may be granted to a Grantee who is not a Director but unvested under the Scheme shall not exceed 0.1 per cent. of the total number of issued Shares from time to time.

The maximum number of Award Shares which may be granted to a Grantee who is a Director shall not, in aggregate, exceed 0.5 per cent. of the total number of issued Shares in any 12-month period.

Duration

Subject to any early termination as may be determined by the Board pursuant to the terms of the Scheme Rules, the Share Award Scheme shall be valid and effective for the period commencing on the Adoption Date until the later of (i) the 10th anniversary of the Adoption Date, and (ii) such date that all Awards outstanding are fully vested, settled, lapsed, forfeited or cancelled (as the case may be).

The remaining life of the Share Award Scheme is around 4 years.

Administration

The Share Award Scheme shall be subject to the administration of the Board, the Committee and the Trustee in accordance with the Scheme Rules and the Trust Deed.

Operation

Grant of Awards

The Board may, from time to time, at its absolute discretion, select any Eligible Persons to participate in the Share Award Scheme as Grantees, subject to the terms and conditions set out in the Scheme Rules. In determining the Grantees, the Board shall take into consideration matters including, but without limitation, the present and expected contribution of the relevant Grantees to the Group. A Grantee may be granted an Award by the Company during the Award Period which will vest over a period of time and on such other conditions to be determined by the Board in its absolute discretion.

Subject to the restrictions set out in the section headed "Restrictions" below, the Company shall:

(i) pay to the Trustee monies and may give directions or a recommendation to the Trustee to apply such monies and/or such other net amount of cash derived from Shares held as part of the Trust Fund to acquire Shares or instruct the Trustee to reallocate any Returned Shares; and/or

(ii) allot and issue new Shares to the Trustee pursuant to a Specific Mandate and in accordance with all applicable laws and regulations, including but not limited to the requirements of the Listing Rules and the Takeovers Code, to satisfy any Award made or any expected or potential Award to be made under the Share Award Scheme.

In the event that a Grantee ceases to be an Eligible Person at any time prior to the relevant vesting date by reason of: (i) resignation of the Grantee's employment, or (ii) retirement of the Grantee which is earlier than his/her normal retirement age as specified in his/her terms of employment with the Group, or (iii) termination of the Grantee's employment or contractual engagement with the Group by reason of redundancy, all unvested Awards made to the Grantee shall lapse and be forfeited immediately and all Award Shares vested (but not yet transferred to the Grantee) under the Award shall become immediately transferable to the Grantee.

In the event that a Grantee ceases to be an Eligible Person at any time prior to the relevant vesting date by reason of termination of the Grantee's employment or early termination of the contractual engagement with the Group by reasons of culpable termination or otherwise pursuant to law or employment or engagement contract, all unvested Awards made to the Grantee shall lapse and be forfeited immediately and all Award Shares vested (but not yet transferred to the Grantee) under the Award shall become Returned Shares.

In the event that a Grantee ceases to be an Eligible Person at any time prior to the relevant vesting date by reason of: (i) retirement of the Grantee at his/her normal retirement age as specified in his/her terms of employment with the Group, or (ii) winding-up of any member of the Group in which the Grantee is employed or is contractually engaged, or (iii) completion of the term of the Grantee's contract for provision of services, goods or otherwise with the Group pursuant to such contract terms, or (iv) completion of the term of the contract of the Grantee's engagement with the Group as contractual staff, all unvested Awards shall vest and become immediately transferable to the Grantee.

In the event that a Grantee ceases to be an Eligible Person at any time prior to the relevant vesting date by reason of death or loss of capacity of the Grantee, all unvested Awards shall vest immediately and be transferable to the legal personal representative of the Grantee.

If there occurs an event of change in control (as specified in the Takeovers Code from time to time) of the Company by way of merger or a privatisation of the Company by way of a scheme, or by way of offer to purchase the entire issued share capital of the Company, the Committee shall determine at its discretion whether the outstanding Award Shares shall vest in the relevant Grantee(s) and the time at which such outstanding Award Shares shall vest.

Restrictions

No Award shall be made to Grantees and no payments shall be made to the Trustees to purchase Shares and no directions or recommendations to acquire Shares shall be given to the Trustees under the Scheme and no new Shares shall be allotted and issued to the Trustee pursuant to a Specific Mandate, where any Director is in possession of unpublished inside information in relation to the Company or where dealings in the Shares by Directors are prohibited under any code or requirement of the Listing Rules and all applicable laws from time to time.

Voting Rights

For so long as the Trustee holds any of the Award Shares for the purpose of the Scheme under the Trust, the Trustee shall not exercise the voting rights in respect of any Shares held under the Trust (including but not limited to the Award Shares, any Returned Shares, any bonus Shares and any scrip Shares). Upon the Award Shares being transferred and released to the Grantee in accordance with the Scheme Rules, the Grantee shall be entitled to exercise all voting rights in respect of such Award Shares.

Dividends

A Grantee shall have no right to any dividend derived from the Award Shares which shall be retained by the Trustee for the benefit of the Scheme unless such Award Shares have been transferred and released to him/her in accordance with the Scheme Rules.

Transferability and other rights

Any Award granted under the Scheme but not yet vested shall be personal to the Grantee to whom it is made and shall not be assignable or transferable and no Grantee shall in any way sell, transfer, charge, mortgage, encumber or create any interest in favour of any other person over or in relation to any Award, or enter into any agreement to do so.

Termination

The Share Award Scheme shall terminate on:

(i) such date after the expiry of the Award Period that all Awards outstanding are fully vested, settled, lapsed, forfeited or cancelled (as the case may be) in accordance with the terms and conditions set out in the Scheme; or

(ii) such date of early termination as determined by the Board provided that such termination shall not affect any subsisting rights of any Grantee thereunder.

Following the settlement, lapse, forfeiture or cancellation (as the case may be) of the last outstanding Award made or which can be made under the Share Award Scheme (whichever is later), the Trustee shall sell all the Shares remaining in the Trust within a reasonable time period as agreed between the Trustee and the Company after receiving notice of the settlement, lapse, forfeiture or cancellation (as the case may be) of such last outstanding Award (or such longer period as the Company may otherwise determine), and remit all cash and net proceeds of such sale referred herein and such other funds remaining in the Trust (after making appropriate deductions in respect of all disposal costs, expenses and other existing and future liabilities in accordance with the Trust Deed) to the Company. For the avoidance of doubt, the Trustee shall not transfer any Shares to the Company nor may the Company otherwise hold any Shares whatsoever (other than the proceeds in the sale of such Shares pursuant to this paragraph).

During the year, a total of 290,830,000 Award Shares were granted to 233 participants under the Share Award Scheme.

The Share Award Scheme does not expressly stipulate the number of Award Shares that may be granted thereunder. In the event where any Award is to be satisfied by the allotment and issue of new Shares, the Board shall obtain a specific mandate from the shareholders of the Company at a general meeting. Accordingly, there is no upper limit of the number of Award Shares to be satisfied by existing Shares of the Company available for grant as at 1 January 2022 and 31 December 2022, whereas since the Board has not been authorized by the shareholders of the Company to allot and issue Shares under the Share Award Scheme pursuant to any specific mandate, the number of Award Shares to be satisfied by allotment and issue of new Shares of the Company available for grant as at 1 January 2022 and 31 December 2022 was nil. Details of the Award Shares granted under the Share Award Scheme and the movements during the year are as follows:

			Number of Award Shares						
Name	Date of Grant	Vesting Period	as at 1 January 2022	granted during the year	vested during the year	lasped during the year	canceled during the year	exercised during the year	Outstanding as 31 December 2022
Directors									
Zhu Gongshan	6 July 2022	6.07.2022 to 5.07.2027	0	6,300,000 (note1)	–	–	–	–	6,300,000
Zhu Yufeng	6 July 2022	6.07.2022 to 5.07.2027	0	3,500,000 (note1)	–	–	–	–	3,500,000
Zhu Zhanjun	6 July 2022	6.07.2022 to 5.07.2027	0	3,300,000 (note1)	–	–	–	–	3,300,000
Lan Tianshi	16 February 2022	16.02.2022 to 15.02.2027	0	9,390,000 (note2)	–	–	–	–	9,390,000
Sun Wei	6 July 2022	6.07.2022 to 5.07.2027	0	3,300,000 (note1)	–	–	–	–	3,300,000
Yeung Man Chung, Charles	6 July 2022	6.07.2022 to 5.07.2027	0	3,000,000 (note1)	–	–	–	–	3,000,000
Ho Chung Tai, Raymond (note3)	6 July 2022	6.07.2022 to 5.07.2027	0	500,000 (note2)	–	–	–	–	500,000
Yip Tai Him (note3)	6 July 2022	6.07.2022 to 5.07.2027	0	500,000 (note1)	–	–	–	–	500,000
Shen Wenzhong (note3)	6 July 2022	6.07.2022 to 5.07.2027	0	500,000 (note1)	–	–	–	–	500,000
Other Employees	16 February 2022	16.02.2022 to 15.02.2027	0	204,910,000 (note2)	–	–	–	–	204,910,000
	6 July 2022	6.07.2022 to 5.07.2027	0	55,630,000 (note1)	–	–	–	–	55,630,000

Notes

1. Based on the closing price of HK$3.83 per Share quoted on the Stock Exchange on 6 July 2022, the market value of the granting Award Shares (at grant price of HK$0.86 per Award Share) is approximately HK$293,109,900. The details of accounting standard adopted is set out in note 49.

2. Based on the closing price of HK$2.52 per Share quoted on the Stock Exchange on 16 February 2022, the market value of the granting Award Shares (at grant price of HK$0.86 per Award Share) is approximately HK$540,036,000. The details of accounting standard adopted is set out in note 49

3. Granting Award Share to the Independent Non-Executive Directors was approved by the board of the company and all Independent Non-Executive Directors was abstain from voting for the relevant resolution.

The number of shares that may be issued in respect of options and awards granted under all schemes of the Company during the financial year divided by the weighted average number of shares in issue for the year is approximately 1.07%.

INTERESTS AND SHORT POSITIONS OF SUBSTANTIAL SHAREHOLDERS

As at 31 December 2022, so far as is known to any Director or chief executive of the Company, the following persons (other than a Director or chief executive of the Company) had an interest or short position in the shares or underlying shares of the Company as recorded in the register kept pursuant to Section 336 of the SFO:

(i) Long position in the shares and underlying shares of the Company

Name	Capacity/nature of interest	Number of shares/ underlying shares	Approximate percentage of issued share capital of the Company (Note 2)
Asia Pacific Energy Fund Limited	Interest in a controlled corporation (Note 1)	6,405,332,156	23.62%

Notes:

1. An aggregate of 6,405,332,156 shares of the Company are collectively held by Highexcel Investments Limited, Happy Genius Holdings Limited and Get Famous Investments Limited, which are wholly-owned by Golden Concord Group Limited, which in turn is wholly–owned by Asia Pacific Energy Holdings Limited. Asia Pacific Energy Holdings Limited is in turn wholly-owned by Asia Pacific Energy Fund Limited. Asia Pacific Energy Fund Limited is ultimately held under a discretionary trust with Credit Suisse Trust Limited as trustee for Mr. Zhu Gongshan and his family (including Mr. Zhu Yufeng, a Director and the son of Mr. Zhu Gongshan) as beneficiaries.

2. The total number of ordinary shares of the Company in issue as at 31 December 2022 is 27,108,497,973.

Save as disclosed aforesaid, so far as is known to any Directors or chief executive of the Company, as at 31 December 2022, no other persons (other than a Director or chief executive of the Company) who had an interest or short position in the shares or underlying shares of the Company as recorded in the register kept pursuant to Section 336 of the SFO.

DIRECTOR'S INTEREST IN SIGNIFICANT CONTRACTS

Save as disclosed in the heading "Connected Transactions and Continuing Connected Transactions", there is no transaction, arrangement or contract of significance subsisting during or at the end of the year in which a director of the Company is or was materially interested, either directly or indirectly.

CONNECTED TRANSACTIONS & CONTINUING CONNECTED TRANSACTIONS

The INEDs of the Company, have reviewed and considered the report from internal auditors in respect of the internal audit procedures taken and findings on the continuing connected transactions, confirmed that the continuing connected transactions for the year ended 31 December 2022 and that they were entered into:

i. in the ordinary course of the business of the Group;

ii. on normal commercial terms or better; and

iii. in accordance with the relevant written agreements governing them on terms that are fair and reasonable and in the interests of the shareholders of the Company as a whole.

Pursuant to Rule 14A.56 of the Listing Rules, the Company has engaged the auditor of the Company to conduct certain procedures in respect of the continuing connected transactions of the Group in accordance with the Hong Kong Standard on Assurance Engagement 3000 (Revised) "Assurance Engagement Other Than Audits or Reviews of Historical Financial Information" and with reference to Practice Note 740 "Auditor's Letter on Continuing Connected Transactions under the Hong Kong Listing Rules" issued by the Hong Kong Institute of Certified Public Accountants.

The auditor has confirmed to the Board in writing that for the year ended 31 December 2022, the continuing connected transactions, which were entered into:

a. have received the approval of the Board;

b. have been in accordance with the pricing policies of the Company for transactions involving the provision of goods or services;

c. have been in accordance with the relevant agreement governing such transactions; and

d. have not exceeded the relevant announced cap amounts for the financial year ended 31 December 2022.

Details of the connected transactions and continuing connected transactions of the Company for the year ended 31 December 2022 that are subject to reporting and annual review requirements under the Listing Rules are as follows:

(A) Connected Transactions

The following is summary of transaction which was disclosed in the announcement of the Company during the year ended 31 December 2022:

(1) The Heads of Agreement dated 19 December 2021 Entered into between GNE Hong Kong and Poly-GCL Petroleum

Reference is made to the joint announcement of the Company and GCL New Energy Holdings Limited ("GNE") dated 19 December 2021 in relation to the heads of agreement ("HOA") entered into between GCL New Energy Hong Kong Investment Limited ("GNE Hong Kong") (as purchaser) and POLY-GCL Petroleum Group Limited ("POLY-GCL Petroleum") (as supplier) in respect of the transaction that GNE Hong Kong pay the deposit to POLY-GCL Petroleum under HOA.

As at 19 December 2021, GNE was a subsidiary of the Company. Mr. Zhu Gongshan and Mr. Zhu Yufeng are both executive directors of GCL-Poly and are therefore connected persons of GCL-Poly. As POLY-GCL Petroleum is an associate (as defined under the Listing Rules) of Mr. Zhu Gongshan and Mr. Zhu Yufeng, POLY-GCL Petroleum are connected persons of the Company and the payment of the Deposit by GNE Hong Kong under the HOA constitutes a connected transaction for the Company under Chapter 14A of the Listing Rules.

GNE Hong Kong is an indirect wholly-owned subsidiary of GNE. As at the date of this joint announcement, Mr. Zhu Yufeng is an executive director of GNE and is a connected person of GNE. As POLY-GCL Petroleum is an associate (as defined under the Listing Rules) of Mr. Zhu Yufeng, POLY-GCL Petroleum is a connected person of GNE and the payment of the deposit by GNE Hong Kong under the HOA constitutes a connected transaction for GNE under Chapter 14A of the Listing Rules.

Pursuant to the HOA, GNE Hong Kong (an indirect wholly-owned subsidiary of GNE) and POLY-GCL Petroleum shall endeavor to procure the conditions precedent to be fulfilled on or before the last day of the three months from the date of the HOA (i.e. 18 March 2022).

As the conditions precedent to the HOA have not been fulfilled on 18 March 2022, the HOA has expired and no deposit or any other compensation or amounts shall be payable by GNE Hong Kong to POLY-GCL Petroleum.

The respective boards of directors of the Company and GNE are of the view that the expiration of the HOA would have no material adverse impact on the financial and operational position of the Company and GNE.

Joint announcements dated 19 December 2021 and 20 March 2022 setting out details of the above–mentioned transaction were issued by the Company and GNE.

(2) Investment Agreement dated 8 August 2022 entered into between Hefei GCL System Integration New Energy Technology Co., Ltd., GCL System Integration, GCL System Integration (Suzhou) and GCL Technology Suzhou

Reference is made to announcement of the Company dated 8 August 2022 in relation to, GCL Technology Suzhou, a wholly-owned subsidiary of the Company, has entered into the Investment Agreement with the Hefei GCL System Integration New Energy Technology Co., Ltd. ("Hefei GCL System"), GCL System Integration and GCL System Integration (Suzhou).

Pursuant to the Investment Agreement, GCL Technology Suzhou agreed to (i) acquire 8% of the total registered capital of the Hefei GCL System after the Reorganisation and Merger (being registered capital of RMB154.32 million in the Hefei GCL System) from GCL System Integration at a consideration of RMB200 million and (ii) subscribe for the registered capital of RMB154.32 million in the Hefei GCL System at a consideration of RMB200 million.

On 8 August 2022, GCL Technology Suzhou has also entered into the Shareholders' Agreement with Hefei GCL System, GCL System Integration and GCL System Integration (Suzhou) to set forth the respective rights and obligations in connection with the Hefei GCL System.

As informed by GCL System Integration, on 8 August 2022, Nantong Zhongjin (being an Independent Third Party to the Company) entered into the Equity Financing Transaction Agreements with the Hefei GCL System, GCL System Integration and GCL System Integration (Suzhou) to subscribe for the registered capital of RMB115.74 million in Hefei GCL System at a consideration of RMB150 million.

Upon the completion of the Reorganisation and Merger and the Initial Series A Transactions, it is estimated that the Company will, through GCL Technology Suzhou, hold the registered capital of Hefei GCL System of RMB308.64 million, representing approximately 14.03% of the equity interest of Hefei GCL System as enlarged by the capital increase pursuant to the Reorganisation and Merger and the Initial Series A Transactions. The Company will treat the Transactions as an equity investment in the financial statement of the Group. As such, the Hefei GCL System, Jurong GCL System Integration and Leshan GCL System Integration will not become subsidiaries of the Company upon the Reorganisation and Merger and the Initial Series A Transactions.

According to the Investment Agreement, upon occurrence of Repurchase Events, GCL Technology Suzhou shall be entitled to require GCL System Integration to acquire all or part of its equity interests in the Hefei GCL System Integration New Energy Technology Co., Ltd. held as a result of the transactions under the Investment Agreement by written notice, and GCL System Integration shall acquire such equity interests in cash.

As at the date of this announcement, the Zhu Family Trust is the substantial shareholder and a connected person of the Company. GCL System Integration (Suzhou) and Hefei GCL System are both the wholly-owned subsidiaries of GCL System Integration, which is in turn ultimately controlled by Mr. Zhu. Accordingly, each of GCL System Integration, GCL System Integration (Suzhou) and Hefei GCL System is therefore a connected person of the Company and the Transactions constitute connected transactions of the Company under Chapter 14A of the Listing Rules. In accordance with Rule 14A.76(2) of the Listing Rules, as the highest applicable percentage ratio in respect of the Transactions, on an aggregate basis, exceeds 0.1% but is less than 5%, it is subject to the reporting and announcement requirements but is exempt from the independent shareholders' approval requirement under Chapter 14A of the Listing Rules.

As (i) Mr. Zhu and Mr. Zhu Yufeng, son of Mr. Zhu, are beneficiaries of the Zhu Family Trust and (ii) Ms. Sun Wei is a director of GCL System Integration, Mr. Zhu, Mr. Zhu Yufeng and Ms. Sun Wei have abstained from voting on the resolutions of the Board in respect of the approval of the Transactions. In addition, Mr. Zhu Zhanjun and Mr. Yeung Man Chung, Charles have also abstained from voting on the resolutions of the Board in respect of the approval of the Transactions to avoid potential conflict of interest from a good corporate governance perspective. Save for the Directors mentioned above, none of the other Directors has a material interest or potential conflict of interest in the Transactions, and therefore none of them was required to abstain from voting on the relevant resolutions of the Board.

(3) Six Coal Supply Agreements in 2022 entered into between Jiangsu Zhongneng Polysilicon and Suzhou GCL

Reference is made to announcements of the Company dated 19 September 2022 and 30 December 2022 in relation to Coal Supply Agreements entered into between Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd. ("Jiangsu Zhongneng"), an indirect wholly-owned subsidiary of the Company (as customer) and Suzhou GCL Energy Technology Co., Ltd. ("Suzhou GCL") (as supplier), including:

(i) the First Coal Supply Agreement on 4 June 2022 for the supply of 19,025.80 tonnes of coal at a total consideration of RMB22,557,967;

(ii) the Second Coal Supply Agreement on 30 June 2022 for the supply of 19,213.43 tonnes of coal at a total consideration of RMB22,097,275;

(iii) the Third Coal Supply Agreement on 27 July 2022 for the supply of 4,991.40 tonnes of coal at a total consideration of RMB5,553,232;

(iv) the Fourth Coal Supply Agreement on 19 September 2022 for the supply of approximately 25,000 tonnes of coal at a total consideration of RMB27,820,000;

(v) the Fifth Coal Supply Agreement on 20 October 2022 for the supply of approximately 20,000 tonnes of coal at a total consideration of tonnes of coal at a total consideration of RMB27,820,000; and

(vi) the Sixth Coal Supply Agreement on 30 December 2022 for the supply of approximately 35,000 tonnes of coal at a total consideration of tonnes of coal at a total consideration of RMB46,592,000.

Zhu Family Trust is a substantial shareholder of the Company, and therefore is a connected person of the Company. As Suzhou GCL is ultimately held by the Zhu Family Trust, Suzhou GCL is an associate of the Zhu Family Trust and a connected person of the Company under Chapter 14A of the Listing Rules.

The above-mentioned connected transactions were one-off transaction.

(B) Continuing Connected Transactions

Details of the continuing connected transactions of the Company for the year ended 31 December 2022 are as follows:

(1) Steam supply

The Group entered into the following agreement dated 31 July 2020:

Reference is made to the announcement dated 31 July 2020, in relation to:

Yangzhou GCL and Yangzhou Power entered into the Yangzhou Steam Supply Agreement ("2020 Yangzhou Steam Supply Agreement") dated 31 July 2020 in relation to the supply of steam by Yangzhou Power to Yangzhou GCL after the expiry of the Existing Yangzhou Steam Supply Agreement on 31 May 2020.

On 31 July 2020, Zhu Gongshan Family Trust effectively holds 40.8% equity interests in Yangzhou Power, therefore, Yangzhou Power is an associate of Mr. Zhu and a connected person of the Company. Accordingly, the transaction contemplated under the Supplemental Agreement constitutes a continuing connected transaction for the Company under Chapter 14A of the Listing Rules.

The transaction amounts and the revised annual caps for the year ended 31 December 2022 under the New Yangzhou Steam Supply Agreement (as supplemented by the Supplemental Agreement) were as follows:

Agreement	**Transaction amount for the year ended 31 December 2022** (RMB)	**Annual Cap for the year ended 31 December 2022** (RMB)
2020 Yangzhou Steam Supply Agreement	nil	6,740,230

An announcement dated 31 July 2020 setting out details of the above-mentioned transaction was issued by the Company.

(2) Lease of property

Reference is also made to the announcement dated 30 September 2021 in relation to a Leases Agreement.

Suzhou GCL Research, entered into the following lease agreements as landlord, dated 30 September 2021:

1. GCL Energy Technology as tenant in relation to the leasing of the East, South and West 3 Zones of 3/F Headquarter for use as offices for a term of two years commencing from 1 October 2021 to 30 September 2023 (the "New GCL Energy Technology Lease Agreement for Headquarter");

2. GCL Power Sales as tenant in relation to the leasing of the North Zone of 3/F Headquarter for use as offices for a term of two years commencing from 1 October 2021 to 30 September 2023 (the "GCL Power Sales Lease Agreement"); and

3. GCL Intelligent Energy as tenant in relation to the leasing of the North Eastern Zone of 3/F Headquarter for use as offices for a term of one year commencing from 1 October 2021 to 30 September 2022 (the "GCL Intelligent Energy Lease Agreement").

3/F Research Building is spare space in the property of the Group. The leasing of such spare space could bring additional rental income to the Group.

As at 30 September 2021, the Zhu Family Trust is the shareholder and a connected person of the Company. Each of GCL Energy Technology, GCL Power Sales and GCL Intelligent Energy is an indirect subsidiary of Golden Concord Group, which is in turn ultimately held by the Zhu Family Trust, and is therefore an associate of the Zhu Family Trust and a connected person of the Company as defined under Chapter 14A of the Listing Rules. Accordingly, the transactions contemplated under the Lease Agreements constitute continuing connected transactions of the Company under Chapter 14A of the Listing Rules.

The transaction amounts and the revised annual caps for the year ended 31 December 2022 under the New GCL Energy Technology Lease Agreement for Headquarter, GCL Power Sales Lease Agreement and GCL Intelligent Energy Lease Agreement were as follows:

Agreements	**Transaction amount for the year ended 31 December 2022** (RMB)	**Annual Cap for the year ended 31 December 2022** (RMB)
New GCL Energy Technology Lease Agreement for Headquarter	15,927,570	15,927,570
GCL Power Sales Lease Agreement	1,147,500	1,147,500
GCL Intelligent Energy Lease Agreement	907,200	907,200

An announcement dated 30 September 2021 setting out details of the above-mentioned transactions were issued by the Company.

Perpetual Notes Agreement with GNE

Reference is made to the Company's announcement dated 30 August 2022 and circular dated 6 September 2022 regarding, among other things, the continuation of existing perpetual notes agreement with GNE (the "***Perpetual Notes Agreement***").

On 18 November 2016, certain wholly-owned subsidiaries of the Company, including GCL Technology (Suzhou) Co., Ltd. (協鑫科技(蘇州)有限公司), Jiangsu GCL Silicon Material Technology Development Co.,Ltd. (江蘇協鑫硅材料科技發展有限公司), Suzhou GCL Photovoltaic Technology Co., Ltd. (蘇州協鑫光伏科技有限公司), and Taicang GCL Photovoltaic Technology Co., Ltd. (太倉協鑫光伏科技有限公司) (as lenders) and Nanjing GCL New Energy Development Co., Ltd, an indirect wholly-owned subsidiary of GNE (as borrower), entered into the Perpetual Notes Agreement in the principal amount of RMB1,800,000,000. Following the completion of the distribution in specie of shares of GNE by the Company on 29 September 2022, Golden Concord Group, a substantial shareholder and a connected person of the Company, consolidated the financial results of GNE as its subsidiary pursuant to applicable accounting standards. Pursuant to Rule 14A.07(4) of the Listing Rules, GNE became an associate of Golden Concord Group as a connected person of the Company. Accordingly, the Perpetual Notes Agreement constitutes continuing connected transaction of the Company for the purposes of the Listing Rules.

Under the terms of the Perpetual Notes Agreement, the interest rate for the principal amount is 7.3% per annum for the first two years, 9% per annum for the third to fourth year and is capped at 11% per annum starting from the fifth year. Therefore, the maximum interest payment in the year ended 31 December 2022 is RMB210,000,000.00.

Further details on the principal terms of the Perpetual Notes Agreement are set out in the Company's announcement dated 30 August 2022 and circular dated 6 September 2022.

Save as disclosed above, no other related party transactions set out in the note 53 of the consolidated financial statements constitute connected transactions or continuing connected transactions that are required to be disclosed under Chapter 14A of the Listing Rules.

DIRECTORS' INTERESTS IN COMPETING BUSINESS

During the years, the following Director is considered to have interest in the business which competes or is likely compete, either directly or indirectly, with the business of the Group as required to be disclosed pursuant to the Listing Rules:

Names of Director	Name of company in which the relevant Director has interest	Principal activities of the competing company	% interest in competing company
Mr. Zhu Yufeng	錫林郭勒中能硅業有限公司 Xilingol Zhongneng Silicon Co., Ltd.* (Dormant and inactive)	Intend to produce polysilicon ingot upon completion of construction	Mr. Zhu Yufeng, through companies controlled by him, holds 70% interest

Note: * English name for identification only

EMOLUMENT POLICY

The emolument policy of the Group to reward its employees is based on their performance, qualifications, competence and market comparables. Remuneration package generally comprises salary, contribution to pension schemes and bonuses relating to the profit of the relevant company and individual's performance. The remuneration package of the executive Directors and the senior management are also linked to the performance of the Group and the return to its shareholders. The remuneration policy of the executive Directors is reviewed by the Remuneration Committee of the Company.

The Group has adopted share option schemes and share award scheme as incentives to Directors, employees and eligible participants, details of the schemes are set out under the section headed "Option Schemes" and "Share Award Scheme" in this report and in notes 49a(I) and 49a(II) respectively to the consolidated financial statements.

PRE-EMPTIVE RIGHTS

There are no provisions for pre-emptive rights under the Company's Articles of Association or relevant laws of the Cayman Islands which would oblige the Company offer new Shares on a pro rata basis to the existing shareholders.

MAJOR CUSTOMERS AND SUPPLIERS

During the year, the Group's largest supplier accounted for approximately 22.7% of total purchases. The five largest suppliers accounted for approximately 43.1% of the Group's total purchases.

One of the five largest suppliers of the Company was Xinjiang GCL New Energy Materials Technology Co., Limited* (新疆協鑫新能源材料科技有限公司) ("Xinjiang GCL"). As at 31 December 2022, (i) a wholly-owned subsidiary of the Company held 38.5% interest in Xinjiang GCL; and (ii) an associated company of the Company held 34.5% interests in Xinjiang GCL.

During the year, the Group's largest customers accounted for approximately 16.6% of the Group's total sales. The five largest customers accounted for approximately 47.4% of the Group's total sales.

As at 31 December 2022, Mr. Zhou Gongshan and Mr. Zhu Yufeng had interest in the Company as disclosed under the section of "Director's and Chief Executive's Interests and Short Positions in Shares, Underlying Shares and Debentures of the Company and Associated Company".

Save as disclosed above, to the best knowledge of the Directors, there is no other Directors or any of their associates or any shareholder who holds more than 5% of the ordinary shares of the Company has any interests in the suppliers or customers disclosed above.

PURCHASES, SALE OR REDEMPTION OF THE COMPANY'S LISTED SECURITIES

During the year ended 31 December 2022, the Company repurchased a total of 31,625,000 shares of the Company (the "Repurchased Shares") on the Stock Exchange respectively on 22, 23 and 30 December 2022 at an aggregate consideration (including transaction cost) of approximately HK$63 million. The Repurchased Shares were subsequently cancelled on 16 January 2023.

During the year ended 31 December 2022, the trustee of the share award scheme adopted by the Company on 16 January 2017 has purchased a total of 201,500,000 ordinary shares of the Company on the Stock Exchange at a total consideration of approximately HK$500 million.

Other than disclosed above, during the year ended 31 December 2022, neither the Company nor any of its subsidiaries had purchased, sold or redeemed any of the Company's listed securities.

RELATED PARTY TRANSACTIONS

Details of the related party transactions undertaken in normal course of business are set out in note 53 to the consolidated financial statements. Details of the connected transactions/continuing connected transactions are set out under section of "Connected Transactions and Continuing Connected Transactions"

PUBLIC FLOAT

As at the date of this report, based on the information that is publicly available to the Company and within the knowledge of the Directors, there is sufficient public float of not less than 25% of the Company's issued shares as required under the Listing Rules.

CHANGES IN INFORMATION ON DIRECTORS

As at the date of this report, the changes in information required to be disclosed by the Director(s) of the Company pursuant to Rule 13.51(B) of the Listing Rules since the published of 2022 Interim Report are set out below:

Name of Director	Details of Change	Effective Date
Ms. Sun Wei	• Resigned as a director of GCL Energy Technology Co., Ltd.	February 2023

AUDITOR

Following the resignation of Deloitte Touche Tohmatsu as the auditor of the Company with effect from 14 May 2021, Crowe (HK) CPA Limited was appointed as the auditor of the Company with effect from 29 June 2021 to fill the casual vacancy and re-appointed as the auditor of the Company at the annual general meeting of the Company held on 31 May 2022.

EVENTS AFTER REPORTING PERIOD

Details of the events after reporting period are set out in note 51 to the consolidated financial statements.

On behalf of the Board
Zhu Gongshan
Chairman

Hong Kong, 30 March 2023

國富浩華（香港）會計師事務所有限公司
Crowe (HK) CPA Limited
香港 銅鑼灣 禮頓道77號 禮頓中心9樓
9/F Leighton Centre,
77 Leighton Road,
Causeway Bay, Hong Kong

TO THE SHAREHOLDERS OF GCL TECHNOLOGY HOLDINGS LIMITED (Formerly known as GCL-Poly Energy Holdings Limited)
協鑫科技控股有限公司(前稱為保利協鑫能源控股有限公司)
(incorporated in the Cayman Islands with limited liability)

OPINION

We have audited the consolidated financial statements of GCL Technology Holdings Limited (the "Company") (formerly known as GCL-Poly Energy Holdings Limited) and its subsidiaries (collectively referred to as the "Group") set out on pages 102 to 310, which comprise the consolidated statement of financial position as at 31 December 2022, and the consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2022, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards ("IFRS Standards") issued by the International Accounting Standards Board ("IASB") and have been properly prepared in compliance with the disclosure requirements of the Hong Kong Companies Ordinance.

BASIS FOR OPINION

We conducted our audit in accordance with Hong Kong Standards on Auditing ("HKSAs") issued by the Hong Kong Institute of Certified Public Accountants ("HKICPA"). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the HKICPA's Code of Ethics for Professional Accountants (the "Code"), together with any ethical requirement that are relevant to our audit of the consolidated financial statements in the Cayman Islands, and we have fulfilled our other ethical responsibilities in accordance with these requirement and the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

KEY AUDIT MATTERS

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter	How our audit addressed the key audit matter
Fair value measurement on perpetual notes at fair value through other comprehensive income ("FVTOCI")	
We identified the fair value measurement on perpetual notes at FVTOCI as a key audit matter due to the significance of the balance to the consolidated financial statements as a whole and the significant management judgement and estimates involved in determining the fair value. The Group held perpetual notes issued by GNE and are classified as equity instrument at FVTOCI. As disclosed in note 20 to the consolidated financial statements, the Group's perpetual notes at FVTOCI which are measured at fair value carried at RMB2,100,467,000 as at 31 December 2022. During the year ended 31 December 2022, a change in fair value of equity instrument at FVTOCI of RMB75,588,000 was recognised in other comprehensive income.	The fair value of the Group's perpetual notes at FVTOCI is determined with reference to the valuation performed by the external valuer engaged by the Group (the "Valuer"). Details of the valuation techniques, significant assumptions and key inputs used in the valuation are disclosed in note 45 to the consolidated financial statements. The valuation depends on certain significant assumptions and key inputs that involve management's judgements and estimates. Our audit procedures to assess the fair value of perpetual notes at FVTOCI included the following: • Evaluating the competence, capabilities and objectivity of the Valuer; • Understanding the Valuer's valuation process and methodology, significant assumptions adopted, critical judgmental areas and key inputs used in the valuation through discussion with management and the Valuer with the assistance of our internal valuation specialist; • Evaluating the appropriateness of the methodology in the valuation of equity instrument at FVTOCI with the assistance of our internal valuation specialist; and • Assessing the reasonableness of the key assumptions and inputs adopted by management and the Valuer by comparing to entity-specific information and market data and with the assistance of our internal valuation specialist. Based as the above procedures performed, we found the inputs and estimates used in the valuation of perpetual notes at FVTOCI to be supported by available evidences and consistent with our understanding.

INFORMATION OTHER THAN THE CONSOLIDATED FINANCIAL STATEMENTS AND AUDITOR'S REPORT THEREON

The directors of the Company are responsible for the other information. The other information comprises the information included in the annual report, other than the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

RESPONSIBILITIES OF DIRECTORS AND THOSE CHARGED WITH GOVERNANCE FOR THE CONSOLIDATED FINANCIAL STATEMENTS

The directors of the Company are responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS Standards issued by the IASB and the disclosure requirements of the Hong Kong Companies Ordinance, and for such internal control as the directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. This report is made solely to you, as a body, in accordance with our agreed terms of engagement, and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with HKSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with HKSAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of the internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.

- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Audit Committee with a statement that we have complied with the relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and, where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Crowe (HK) CPA Limited
Certified Public Accountants
Hong Kong, 30 March 2023

Chan Wai Dune, Charles
Practising Certificate Number P00712

Consolidated Statement of Profit or Loss and Other Comprehensive Income

For the year ended 31 December 2022

	NOTES	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations			
Revenue	6	**35,930,485**	16,868,378
Cost of sales		**(18,434,966)**	(11,294,404)
Gross profit		**17,495,519**	5,573,974
Other income	7	**975,631**	692,274
Distribution and selling expenses		**(142,916)**	(98,058)
Administrative expenses		**(1,706,283)**	(1,364,232)
Finance costs	8	**(239,507)**	(324,733)
Reversal of Impairment losses (Impairment losses) under expected credit loss model, net	9A	**235,855**	(278,503)
Other expenses, gains and losses, net	9B	**(2,344,362)**	(892,252)
Share of profits of associates	20	**4,116,548**	2,552,175
Share of losses of joint ventures	21	**(87,883)**	(78,032)
Profit before tax		**18,302,602**	5,782,613
Income tax expense	10	**(1,880,020)**	(543,992)
Profit for the year from continuing operations	11	**16,422,582**	5,238,621
Discontinued operation			
Loss for the year from discontinued operation	56	**(942,631)**	(537,614)
Profit for the year		**15,479,951**	4,701,007
Other comprehensive income (expense)			
Items that will not be reclassified to profit or loss:			
Fair value gain on investments in equity instruments at fair value through other comprehensive income		**64,215**	20,610
Share of other comprehensive income of associates		**67,530**	22,402
		131,745	43,012

For the year ended 31 December 2022

	2022 RMB'000	2021 RMB'000 (Restated)
Item that may be reclassified subsequently to profit or loss:		
Exchange differences arising on translation of foreign operations	**76,490**	5,098
Share of other comprehensive income of an associate	**(941)**	—
Reclassification of exchange differences upon Distribution in Specie	**(3,013)**	—
	72,536	5,098
Other comprehensive income for the year	**204,281**	48,110
Total comprehensive income for the year	**15,684,232**	4,749,117
Profit (loss) for the year attributable to:		
Owners of the Company		
– from continuing operations	**16,393,668**	5,241,186
– from discontinued operation	**(363,361)**	(157,234)
	16,030,307	5,083,952
Non-controlling interests		
– from continuing operations	**28,914**	(2,565)
– from discontinued operation	**(579,270)**	(380,380)
	(550,356)	(382,945)
	15,479,951	4,701,007
Total comprehensive income (expense) for the year attributable to:		
Owners of the Company	**16,202,796**	5,126,565
Non-controlling interests	**(518,564)**	(377,448)
	15,684,232	4,749,117

	NOTES	2022 RMB cents	2021 RMB cents (Restated)
Earnings per share	15		
From continuing and discontinued operations			
— Basic		**59.98**	20.68
— Diluted		**59.86**	20.65
From continuing operations			
— Basic		**61.34**	21.32
— Diluted		**61.21**	21.29

The notes on pages 116 to 310 form part of these consolidated financial statement.

Details of dividends distributed and proposed are set out in note 14.

Consolidated Statement of Financial Position

At 31 December 2022

	NOTES	2022 RMB'000	2021 RMB'000
NON-CURRENT ASSETS			
Property, plant and equipment	16	**26,530,692**	18,292,536
Right-of-use assets	17	**1,570,978**	2,299,036
Investment properties	18	**378,493**	56,494
Intangible assets	19	**150,944**	179,870
Interests in associates	20	**14,985,018**	9,605,159
Interests in joint ventures	21	**201,383**	693,944
Investments at fair value through profit or loss	22	**707,027**	296,410
Equity instruments at fair value through other comprehensive income	22	**30,309**	41,683
Deferred tax assets	23	**575,871**	107,985
Deposits, prepayments and other non-current assets	25	**2,611,651**	2,179,398
Contract assets	26	**—**	40,941
Amounts due from related companies – non-trade related	27	**—**	24,481
Pledged and restricted bank and other deposits	29	**251,206**	464,640
		47,993,572	34,282,577
CURRENT ASSETS			
Inventories	24	**2,587,348**	950,575
Trade and other receivables	25	**23,621,398**	17,527,363
Amounts due from related companies – trade related	27	**221,067**	213,999
Amounts due from related companies – non-trade related	27	**567,682**	361,288
Investments at fair value through profit or loss	22	**253,845**	421,790
Held for trading investments	28	**3,035**	1,473
Tax recoverable		**137,533**	88,027
Pledged and restricted bank and other deposits	29	**3,543,342**	2,765,122
Bank balances and cash	29	**6,635,646**	6,702,316
		37,570,896	29,031,953
Assets classified as held for sale	30	**—**	783,384
		37,570,896	29,815,337

At 31 December 2022

	NOTES	2022 RMB'000	2021 RMB'000
CURRENT LIABILITIES			
Trade and other payables	31	**19,580,904**	13,853,080
Amounts due to related companies – trade related	32	**219,923**	254,876
Amounts due to related companies – non-trade related	32	**3,276,441**	2,489,143
Loans from related companies	33	**—**	32,325
Contract liabilities	34	**1,113,281**	896,128
Bank and other borrowings – due within one year	36	**9,419,358**	5,022,964
Lease liabilities – due within one year	37	**104,904**	316,819
Notes payables – due within one year	38	**—**	467,305
Derivative financial instruments and other financial liabilities	39	**392,292**	112,759
Deferred income	35	**29,479**	53,355
Tax payables		**181,888**	155,774
		34,318,470	23,654,528
Liabilities associated with assets classified as held for sale	30	**—**	562,365
		34,318,470	24,216,893
NET CURRENT ASSETS		**3,252,426**	5,598,444
TOTAL ASSETS LESS CURRENT LIABILITIES		**51,245,998**	39,881,021
NON-CURRENT LIABILITIES			
Contract liabilities	34	**136,200**	36,000
Bank and other borrowings – due after one year	36	**3,806,496**	3,559,912
Lease liabilities – due after one year	37	**46,179**	468,301
Notes payables – due after one year	38	**—**	2,648,062
Deferred income	35	**85,515**	455,183
Deferred tax liabilities	23	**1,616,697**	411,958
		5,691,087	7,579,416
NET ASSETS		**45,554,911**	32,301,605

	NOTES	2022 RMB'000	2021 RMB'000
CAPITAL AND RESERVES			
Share capital	40	**2,359,838**	2,359,030
Reserves		**40,322,436**	26,666,983
Equity attributable to owners of the Company		**42,682,274**	29,026,013
Non-controlling interests		**2,872,637**	3,275,592
TOTAL EQUITY		**45,554,911**	32,301,605

The consolidated financial statements on pages 102 to 310 were approved and authorised for issue by the board of directors on 30 March 2023 and are signed on its behalf by:

Zhu Gongshan
DIRECTOR

Yeung Man Chung, Charles
DIRECTOR

Consolidated Statement of Changes in Equity

For the year ended 31 December 2022

	Attributable to owners of the Company																
	Share capital RMB'000	Share premium RMB'000	Treasury share RMB'000 (Note vi)	Share award reserve RMB'000 (Note vii)	Shares held for share award scheme RMB'000 (Note i)	Capital redemption reserve RMB'000	Investments revaluation reserve RMB'000	Other reserve RMB'000 (Note ii)	Capital reserve RMB'000 (Note iii)	Statutory reserve funds RMB'000 (Note iv)	Special reserves RMB'000 (Note v)	Share options reserve RMB'000 (Note vii)	Translation reserve RMB'000	Accumulated profits RMB'000	Sub-total RMB'000	Non-controlling interests RMB'000	Total RMB'000
At 1 January 2022	2,359,030	17,504,873	—	—	(236,629)	22,202	(62,135)	(955,200)	67,251	3,782,275	(2,198,821)	72,334	(36,204)	8,707,037	29,026,013	3,275,592	32,301,605
Exchange differences arising from translation of financial statements of foreign operations	—	—	—	—	—	—	—	—	—	—	—	—	44,698	—	44,698	31,792	76,490
Reclassification of exchange differences upon deemed disposal of GNE (as defined in note 1)	—	—	—	—	—	—	—	—	—	—	—	—	(3,013)	—	(3,013)	—	(3,013)
Fair value gain on investments in equity instruments at FVTOCI	—	—	—	—	—	—	64,215	—	—	—	—	—	—	—	64,215	—	64,215
Share of other comprehensive income of associates	—	—	—	—	—	—	67,530	—	—	—	—	—	(941)	—	66,589	—	66,589
Profit (loss) for the year	—	—	—	—	—	—	—	—	—	—	—	—	—	16,030,307	16,030,307	(550,356)	15,479,951
Total comprehensive income for the year	—	—	—	—	—	—	131,745	—	—	—	—	—	40,744	16,030,307	16,202,796	(518,564)	15,684,232
Exercise of share options	808	22,062	—	—	—	—	—	—	—	—	—	(13,202)	—	—	9,668	—	9,668
Forfeitures of share options	—	—	—	—	—	—	—	—	—	—	—	(1,146)	—	1,146	—	—	—
Equity-settled share-based payment	—	—	—	185,068	—	—	—	—	—	—	—	—	—	—	185,068	—	185,068
Equity-settled share-based payment recognised by GNE	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12,841	12,841
Purchase of shares under share award scheme	—	—	—	—	(439,478)	—	—	—	—	—	—	—	—	—	(439,478)	—	(439,478)
Repurchase of shares	—	—	(57,971)	—	—	—	—	—	—	—	—	—	—	—	(57,971)	—	(57,971)
Contributions from non-controlling shareholders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,255,079	1,255,079
Deemed disposal of partial interest in a subsidiary by increase of paid-up capital of a subsidiary (note 42(A)(i)(b))	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	580,000	580,000
Dividend by way of distribution in specie (note 14)	—	(1,963,482)	—	—	—	—	—	—	—	(986,516)	(51,776)	—	—	1,038,292	(1,963,482)	(2,077,657)	(4,041,139)
Transaction costs attributable to the distribution in specie	—	(19,052)	—	—	—	—	—	—	—	—	—	—	—	—	(19,052)	—	(19,052)
Transfer to reserves	—	—	—	—	—	—	—	—	—	689,995	—	—	—	(689,995)	—	—	—
Acquisition of additional interest in a subsidiary	—	—	—	—	—	—	—	—	—	—	(805)	—	—	—	(805)	(3,195)	(4,000)
Disposal of subsidiaries (note 42(A)(i)(d))	—	—	—	—	—	—	—	—	—	(9,713)	—	—	—	9,713	—	(18,473)	(18,473)
Deemed disposed of partial interest in GNE by share placement of GNE (note 42(A)(i)(a))	—	—	—	—	—	—	—	—	—	—	(62,195)	—	—	—	(62,195)	328,795	266,600
Change in capital structure of a subsidiary (note 41(A))	—	—	—	—	—	—	—	(177,992)	—	—	(20,296)	—	—	—	(198,288)	38,219	(160,069)
At 31 December 2022	2,359,838	15,544,401	(57,971)	185,068	(676,107)	22,202	69,610	(1,133,192)	67,251	3,476,041	(2,333,893)	57,986	4,540	25,096,500	42,682,274	2,872,637	45,554,911

	Attributable to owners of the Company														
	Share capital RMB'000	Share premium RMB'000	Shares held for share award scheme RMB'000 (Note i)	Capital redemption reserve RMB'000	Investments revaluation reserve RMB'000	Other reserve RMB'000 (Note ii)	Capital reserve RMB'000 (Note iii)	Statutory reserve funds RMB'000 (Note iv)	Special reserves RMB'000 (Note v)	Share options reserve RMB'000 (Note vii)	Translation reserve RMB'000	Accumulated profits RMB'000	Sub-total RMB'000	Non-controlling interests RMB'000	Total RMB'000
At 1 January 2021	1,862,725	10,384,344	(236,629)	22,202	(105,147)	(907,592)	67,251	4,064,057	(1,891,265)	145,681	(43,787)	3,227,279	16,589,119	3,802,086	20,391,205
Exchange differences arising from translation of financial statements of foreign operations	–	–	–	–	–	–	–	–	–	–	(399)	–	(399)	5,497	5,098
Fair value gain on investments in equity instruments at FVTOCI	–	–	–	–	20,610	–	–	–	–	–	–	–	20,610	–	20,610
Share of other comprehensive income of associates	–	–	–	–	22,402	–	–	–	–	–	–	–	22,402	–	22,402
Profit (loss) for the year	–	–	–	–	–	–	–	–	–	–	–	5,083,952	5,083,952	(382,945)	4,701,007
Total comprehensive income for the year	–	–	–	–	43,012	–	–	–	–	–	(399)	5,083,952	5,126,565	(377,448)	4,749,117
Exercise of share options	1,509	39,600	–	–	–	–	–	–	–	(21,452)	–	–	19,657	–	19,657
Forfeitures of share options	–	–	–	–	–	–	–	–	–	(51,895)	–	51,895	–	–	–
Forfeitures of share options of GNE	–	–	–	–	–	–	–	–	–	–	–	62,129	62,129	(62,129)	–
Equity-settled share based payments recognised by GNE	–	–	–	–	–	–	–	–	–	–	–	–	–	20,718	20,718
Issue of new shares (note 40(b))	494,796	7,197,679	–	–	–	–	–	–	–	–	–	–	7,692,475	–	7,692,475
Transaction costs attributable to the issue of new shares	–	(116,750)	–	–	–	–	–	–	–	–	–	–	(116,750)	–	(116,750)
Acquisition of additional interest of subsidiaries	–	–	–	–	–	–	–	–	(331,748)	–	–	–	(331,748)	(1,254,824)	(1,586,572)
Contributions by non-controlling shareholders to newly incorporated subsidiaries	–	–	–	–	–	–	–	–	9,840	–	–	–	9,840	444,286	454,126
Deemed disposal of partial interest in a subsidiary by increase of paid-up capital of a subsidiary (note 42(B)(i)(b))	–	–	–	–	–	–	–	–	24,278	–	–	–	24,278	40,722	65,000
Recognition of derivative financial instruments (note 39 and 42(B)(i)(b))	–	–	–	–	–	(31,632)	–	–	–	–	–	–	(31,632)	–	(31,632)
Deemed disposal of partial interest in a subsidiary by change in the capital structure of subsidiaries (note 42(B)(i)(b))	–	–	–	–	–	(15,976)	–	–	(20,303)	–	–	–	(36,279)	36,279	–
Disposal of partial interest in GNE (note 42(B)(i)(a))	–	–	–	–	–	–	–	–	(39,464)	–	3,139	–	(36,325)	162,566	126,241
Deemed disposal of partial interest in GNE by share placement of GNE (note 42(B)(i)(a))	–	–	–	–	–	–	–	–	49,841	–	4,843	–	54,684	692,401	747,085
Disposal of subsidiaries (note 42(B)(ii))	–	–	–	–	–	–	–	(303,337)	–	–	–	303,337	–	(145,143)	(145,143)
Transfer to reserves	–	–	–	–	–	–	–	21,555	–	–	–	(21,555)	–	–	–
Dividend declared to non-controlling interests	–	–	–	–	–	–	–	–	–	–	–	–	–	(83,922)	(83,922)
At 31 December 2021	2,359,030	17,504,873	(236,629)	22,202	(62,135)	(955,200)	67,251	3,782,275	(2,198,821)	72,334	(36,204)	8,707,037	29,026,013	3,275,592	32,301,605

Notes:

(i) During 2017, 2018 and 2022, the Company paid in total of approximately RMB676,107,000 to a trustee ("Trustee") to purchase 524,498,888 shares of the Company in the market pursuant to the Share Award Scheme (the "Scheme") established on 16 January 2017 ("Adoption Date") by the board of directors of the Company (the "Directors"). As at 31 December 2022 and 2021, all the shares were held by the Trustee. More details are set out in note 49a(II).

(ii) Other reserve represents the equity (other than share capital) attributable to owners of the Company prior to the reverse acquisition, including share premium, capital reserve, contribution from a shareholder, other reserve, share options reserve, revaluation reserve and deficit. As the Company was accounted for as reverse acquisition by GCL Solar Energy Technology Holdings Inc. ("GCL Solar Energy") in 2009, such reserves attributable to owners of the Company were reclassified to other reserve upon the completion of the reverse acquisition.

Upon disposal of the non-solar power business in 2015, portion of the amount was realised and transferred to the share premium, share options reserve and accumulated profits of the Group.

Moreover, other reserve includes the initial recognition of put options granted to non-controlling interests by subsidiaries.

(iii) Capital reserve represents the amount of contribution from former immediate holding company of GCL Solar Energy of United States dollars ("US$") 15,009,000 (equivalent to RMB126,029,000) net of the 500,000 ordinary shares of GCL Solar Energy repurchased for a consideration of US$7,000,000 (equivalent to RMB58,778,000) and cancelled prior to 2009.

(iv) Pursuant to the relevant laws in the People's Republic of China (the "PRC"), each of the subsidiaries established in the PRC is required to transfer 5% – 10% (2021: 5% – 10%) of its profit after tax as per statutory financial statements (as determined by the management of the subsidiary) to the reserve funds (including the general reserve fund and enterprise development fund where appropriate). The general reserve fund is discretionary when the fund balance reaches 50% of the registered capital of the respective company and can be used to make up for previous years' losses or, expand the existing operations or can be converted into additional capital of the subsidiary. The enterprise development fund can only be used for development and is not available for distribution to shareholder.

(v) Special reserves represent (i) the difference between the consideration to acquire additional interests in subsidiaries and the respective share of the carrying amounts of the net assets acquired; (ii) the difference by which the non-controlling interests were adjusted and the fair value of consideration received in relation to the disposal of partial interest of a subsidiary; and (iii) change of interests in existing subsidiaries arising from restructuring.

Upon the completion of Distribution in Specie (as defined in note 14), portion of the amount was realised and transferred to accumulated profits of the Group.

(vi) Treasury shares represent the amounts paid by the Group for repurchases of the equity instruments of the Company. During the year ended 31 December 2022, 31,625,000 ordinary shares of the Company were repurchased by the Group at an aggregate consideration of approximately RMB 57,971,000 which were recognised in equity as treasury shares. Subsequent to 31 December 2022, all of the treasury shares have been cancelled.

(vii) Share options reserve and share award reserve comprise the portion of the grant date fair value of unexercised share options and award shares granted to employees of the Group and others providing similar services that have been recognised in accordance with the accounting policy adopted for share-based compensation benefits.

Consolidated Statement of Cash Flows

For the year ended 31 December 2022

	NOTES	2022 RMB'000	2021 RMB'000
OPERATING ACTIVITIES			
Profit (loss) for the year			
– from continuing operations		**16,422,582**	5,238,621
– from discontinued operation		**(942,631)**	(537,614)
		15,479,951	4,701,007
Adjustments for:			
Income tax expense		**1,897,360**	591,036
Finance costs		**677,703**	1,903,142
Interest income		**(159,915)**	(109,697)
Unrealised exchange loss (gain), net		**19,152**	(12,552)
Depreciation of property, plant and equipment		**1,939,668**	2,058,240
Depreciation of right-of-use assets		**202,806**	261,083
Depreciation of investment properties		**17,085**	4,655
Amortisation of intangible assets		**33,682**	33,474
Amortisation of deferred income		**(66,817)**	(62,810)
Loss on disposal of property, plant and equipment		**164,806**	41,557
Gain on disposal of right-of-use assets		**—**	(6,092)
Share of losses of joint ventures		**87,883**	78,016
Share of profits of associates		**(4,229,059)**	(2,651,636)
Loss (gain) on disposal of solar power plant projects, net		**32,530**	(84,669)
Gain on disposal of subsidiaries, net		**(41,248)**	(16,134)
Gain on partial disposal/deemed disposal of an associate and a joint venture		**(201,537)**	(398,475)
Share-based payment expenses		**197,909**	20,718
(Gain) loss on fair value change of held for trading investments		**(392)**	1,873
Loss on fair value change of investments at fair value through profit or loss ("FVTPL")		**81,050**	51,902
Loss on fair value change of derivative financial instruments		**3,604**	20,566
(Gain) loss on fair value change of convertible bond to a non-controlling shareholder of a subsidiary		**(11,773)**	35,180

	NOTES	2022 RMB'000	2021 RMB'000
OPERATING ACTIVITIES (Continued)			
(Reversal of impairment losses) impairment losses on financial assets under expected credit loss ("ECL") model, net		**(96,988)**	339,018
Write-down (reversal of write-down) of inventories		**126,376**	(14,467)
Impairment loss on property, plant and equipment		**1,048,770**	331,404
Write-back of other payables		**(3,257)**	(54,113)
Gain on early termination of leases		**(16,656)**	(1,701)
Reclassification of exchange differences upon the Distribution in Specie		**(3,013)**	—
Operating cash flows before movements in working capital		**17,179,680**	7,060,525
Increase in inventories		**(1,712,912)**	(446,711)
Increase in trade and other receivables		**(11,828,888)**	(13,819,038)
Decrease (increase) in amounts due from related companies		**410,555**	(27,420)
Increase in trade and other payables		**4,625,517**	7,630,635
(Decrease) increase in amounts due to related companies		**(48,453)**	40,579
(Increase) decrease in contract assets		**(3,632)**	1,192,908
Increase in contract liabilities		**317,353**	574,667
Decrease (increase) in deposits, prepayments and other non-current assets		**120,444**	(101,495)
Cash generated from operations		**9,059,664**	2,104,650
Income taxes paid		**(1,190,593)**	(222,344)
NET CASH FROM OPERATING ACTIVITIES		**7,869,071**	1,882,306

	NOTES	2022 RMB'000	2021 RMB'000
INVESTING ACTIVITIES			
Interest received		**105,608**	97,362
Proceeds from disposal of property, plant and equipment		**60,273**	177,609
Proceeds from disposal of right-of-use assets		**20,900**	49,157
Payments for construction and purchase of property, plant and equipment		**(15,316,500)**	(5,878,148)
Payments for right-of-use assets		**(606,407)**	(100,306)
Refund of deposits for acquisition of property, plant and equipment		**—**	495,280
Investments in associates		**(536,713)**	(294,042)
Investments in joint ventures		**—**	(25,255)
Reduction of capital of joint ventures		**12,058**	—
Dividends received from joint ventures		**33,238**	24,197
Dividends received from associates		**42,240**	28,572
Proceeds from disposal of an associate		**471,600**	500,000
Addition of other financial assets at FVTPL		**(460,000)**	(114,291)
Addition of intangible assets		**(4,756)**	(6)
Withdrawal of pledged and restricted bank and other deposits		**3,173,573**	5,058,003
Placement of pledged and restricted bank and other deposits		**(3,959,373)**	(3,741,388)
Advances to related companies		**(20,036)**	—
Repayment from related companies		**55**	832,739
Short-term loan to a third party		**(1,600,000)**	—
Repayment from non-controlling interests		**—**	18,750
Proceeds from disposal of other financial assets at FVTPL		**95,966**	490,677
Settlement of consideration receivables from disposal of subsidiaries with solar power plant projects		**38,985**	45,492
Settlement of consideration and other receivables in relation to former subsidiaries		**1,498,260**	225,080
Settlement of consideration receivables from disposal of associates		**150,000**	3,685
Settlement of consideration receivables from disposal of subsidiaries		**—**	63,000
Net cash inflow from disposal of subsidiaries		**254,472**	4,247,034
NET CASH (USED IN) FROM INVESTING ACTIVITIES		**(16,546,557)**	2,203,201

	NOTES	2022 RMB'000	2021 RMB'000
FINANCING ACTIVITIES			
Interest paid		**(927,945)**	(1,511,971)
New bank and other borrowings raised		**16,675,534**	9,007,155
Repayment of bank and other borrowings		**(7,349,183)**	(12,612,271)
Repayment of lease liabilities		**(406,104)**	(560,940)
Repayment of notes payables		**(701,025)**	(213,559)
Proceeds of loans from related companies		**600,000**	10,000
Repayment to loans from related companies		**(617,514)**	(886,183)
Advances from related companies		**872,943**	861,907
Repayment to related companies		**(102,781)**	(246,623)
Contribution into capital of subsidiaries by new investors		**1,935,079**	519,126
Proceeds from disposal of partial interest in GNE		**—**	126,241
Acquisition of additional equity interests in non-wholly owned subsidiaries		**(4,000)**	(1,586,572)
Dividends paid to non-controlling interests		**(6,000)**	(289,582)
Proceeds from exercise of share options		**9,668**	19,657
Proceeds from issue of new shares of the Company		**—**	7,692,475
Proceeds from issue of new shares of GNE		**266,600**	747,085
Transaction costs attributable to issue of new shares		**—**	(116,750)
Net cash outflow in respect of the Distribution in Specie	42(A)(i)(a)	**(1,351,011)**	—
Purchase of shares of the Company under share award scheme		**(439,478)**	—
Repurchase of shares of the Company		**(57,971)**	—
NET CASH FROM FINANCING ACTIVITIES		**8,396,812**	959,195

	2022 RMB'000	2021 RMB'000
NET (DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	**(280,674)**	5,044,702
CASH AND CASH EQUIVALENTS AT 1 JANUARY, represented by		
— Bank balances and cash	**6,702,316**	1,709,585
— Bank balances and cash classified as held for sale	**23,351**	48,018
	6,725,667	1,757,603
EFFECT OF EXCHANGE RATE CHANGES ON THE BALANCE OF BANK BALANCES AND CASH HELD IN FOREIGN CURRENCIES	**190,653**	(76,638)
CASH AND CASH EQUIVALENTS AT 31 DECEMBER, represented by		
— Bank balances and cash	**6,635,646**	6,702,316
— Bank balances and cash classified as held for sale	**—**	23,351
	6,635,646	6,725,667

Notes to the Consolidated Financial Statements

For the year ended 31 December 2022

1. GENERAL INFORMATION

GCL Technology Holdings Limited (the"Company") (formerly known as GCL-Poly Energy Holdings Limited) is an exempted company with limited liability incorporated in the Cayman Islands on 12 July 2006 under the Companies Law, Cap 22 of the Cayman Islands. The shares of the Company are listed on the Main Board of The Stock Exchange of Hong Kong Limited (the "Stock Exchange") on 13 November 2007. The address of the registered office of the Company is at Cricket Square, Hutchins Drive, PO Box 2681, Grand Cayman, KY1-1111, Cayman Islands and the principal place of business is at Units 1703B–1706, Level 17, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong.

Pursuant to a special resolution passed at a special general meeting held on 1 April 2022, the Company changed its English name from GCL-Poly Energy Holdings Limited to GCL Technology Holdings Limited, and the dual foreign name in Chinese from "保利協鑫能源控股有限公司" to "協鑫科技控股有限公司", both of which took effect on 1 April 2022.

The Company is an investment holding company. The principal activities of its subsidiaries (together with the Company collectively referred to as the "Group"), associates and joint ventures are principally engaged in (1) the manufacturing and sales of polysilicon and wafers for the solar industry; and (2) the sales of electricity, development, investment, management and operation of solar projects.

During the year, the Group had discontinued the operations of GCL New Energy Holdings Limited ("GNE") (a company listed on the main board of the Stock Exchange with Stock Code: 0451) and its subsidiaries (together with GNE collectively referred to the "GNE Group") through distribution in specie.

The functional and presentation currency of the Company is Renminbi ("RMB").

2. BASIS OF PREPARATION OF CONSOLIDATED FINANCIAL STATEMENTS

Statement of compliance

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (the "IFRS Standards") issued by the International Accounting Standards Board (the "IASB"). For the purpose of preparation of the consolidated financial statements, information is considered material if such information is reasonably expected to influence decisions made by primary users. In addition, the consolidated financial statements include applicable disclosures required by the Rules Governing the Listing of Securities on the Stock Exchange ("Listing Rules") and by the Hong Kong Companies Ordinance.

The consolidated financial statements have been prepared on the historical cost basis except for certain financial instruments that are measured at fair values at the end of each reporting period, as explained in the accounting policies set out below.

Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

2. BASIS OF PREPARATION OF CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Statement of compliance (Continued)

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these consolidated financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of IFRS 2 *Share-based Payment,* leasing transactions that are accounted for in accordance with IFRS 16 Leases, and measurements that have some similarities to fair value but are not fair value, such as net realisable value in IAS 2 *Inventories* or value in use in IAS 36 *Impairment of Assets*.

In addition, for financial reporting purposes, fair value measurements are categorised into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs for the asset or liability.

3. APPLICATION OF NEW AND AMENDMENTS TO INTERNATIONAL FINANCIAL REPORTING STANDARDS ("IFRS STANDARDS")

Amendments to IFRS Standards that are mandatorily effective for the current year

In the current year, the Group has applied the following amendments to IFRS Standards issued by the IASB for the first time, which are mandatorily effective for the annual periods beginning on or after 1 January 2022 for the preparation of the consolidated financial statements:

- Amendments to IFRS 3, Reference to the Conceptual Framework
- Amendments to IFRS 16, COVID-19-Related Rent Concessions beyond 30 June 2021
- Amendments to IAS 16, Property, plant and equipment: Proceeds before intended use
- Amendments to IAS 37, Provisions, contingent liabilities and contingent assets: Onerous contracts — cost of fulfilling a contract
- Amendments to IFRSs, Annual Improvements to IFRSs 2018 - 2020

Except for the impacts of the adoption of the amended IFRSs discussed below, the application of the amendments in the current year has no significant impact on the Group's consolidated financial statements.

3. APPLICATION OF NEW AND AMENDMENTS TO INTERNATIONAL FINANCIAL REPORTING STANDARDS ("IFRS STANDARDS") (Continued)

Amendments to IFRS Standards that are mandatorily effective for the current year (Continued)

Amendments to IFRS 3 Reference to the Conceptual Framework

The Group has applied the amendments to business combinations for which the acquisition date was on or after 1 January 2022. The amendments update a reference in IFRS 3 *Business Combinations* so that it refers to the *Conceptual Framework for Financial Reporting 2018* (the "Conceptual Framework") instead of *Framework for the Preparation and Presentation of Financial Statements* (replaced by the *Conceptual Framework for Financial Reporting 2010*), add a requirement that, for transactions and events within the scope of IAS 37 Provisions, Contingent Liabilities and Contingent Assets ("IAS 37") or IFRIC-Int 21 Levies ("IFRIC 21"), an acquirer applies IAS 37 or IFRIC 21 instead of the Conceptual Framework to identify the liabilities it has assumed in a business combination and add an explicit statement that an acquirer does not recognise contingent assets acquired in a business combination.

Amendments to IAS 16, Property, plant and equipment: Proceeds before intended use

The amendments prohibit an entity from deducting the proceeds from selling items produced before that asset is available for use from the cost of an item of property, plant and equipment. Instead, the sales proceeds and the related costs should be included in profit and loss. The amendments do not have a material impact on these financial statements as the Group does not sell items produced before an item of property, plant and equipment is available for use.

Amendments to IAS 37, Provisions, contingent liabilities and contingent assets: Onerous contracts — cost of fulfilling a contract

The amendments clarify that for the purpose of assessing whether a contract is onerous, the cost of fulfilling the contract includes both the incremental costs of fulfilling that contract and an allocation of other costs that relate directly to fulfilling contracts.

Previously, the Group included only incremental costs when determining whether a contract was onerous. In accordance with the transitional provisions, the Group has applied the new accounting policy to contracts for which it has not yet fulfilled all its obligations at 1 January 2022, and has concluded that none of them is onerous.

3. APPLICATION OF NEW AND AMENDMENTS TO INTERNATIONAL FINANCIAL REPORTING STANDARDS ("IFRS STANDARDS") (Continued)

New and amendments to IFRS Standards in issue but not yet effective

The Group has not early applied the following new and amendments to IFRS Standards that have been issued but are not yet effective:

IFRS 17	Insurance Contracts and the related Amendments[1]
Amendments to IFRS 10 and IAS 28	Sale or Contribution of Assets between an Investor and its Associate or Joint Venture[3]
Amendments to IAS 1	Classification of Liabilities as Current or Non-current and Non-current Liabilities with Covenants[2]
Amendments to IAS 1 and IFRS Practice Statement 2	Disclosure of Accounting Policies[1]
Amendments to IAS 8	Definition of Accounting Estimates[1]
Amendments to IAS 12	Deferred tax related assets and liabilities arising from a single transaction[1]
Amendments to IFRS 16	Lease Liability in a Sale and Leaseback[2]

1 Effective for annual periods beginning on or after 1 January 2023.
2 Effective for annual periods beginning on or after 1 January 2024.
3 Effective for annual periods beginning on or after a date to be determined.

Except for the new and amendments to IFRS Standards mentioned below, the Directors anticipate that the application of all other new and amendments to IFRS Standards will have no material impact on the consolidated financial statements.

Amendments to IAS 1 Classification of Liabilities as Current or Non-current ("2020 Amendments") and Non-current Liabilities with Covenants ("2022 Amendments")

The 2020 amendments provide clarification and additional guidance on the assessment of right to defer settlement for at least twelve months from reporting date for classification of liabilities as current or non-current, which:

- specify that the classification of liabilities as current or non-current should be based on rights that are in existence at the end of the reporting period. Specifically, the amendments clarify that:

    (i) the classification should not be affected by management intentions or expectations to settle the liability within 12 months; and

    (ii) if the right is conditional on the compliance with covenants, the right exists if the conditions are met at the end of the reporting period, even if the lender does not test compliance until a later date; and

3. APPLICATION OF NEW AND AMENDMENTS TO INTERNATIONAL FINANCIAL REPORTING STANDARDS ("IFRS STANDARDS") (Continued)

Amendments to IAS 1 Classification of Liabilities as Current or Non-current ("2020 Amendments") and Non-current Liabilities with Covenants ("2022 Amendments") (Continued)

- clarify that if a liability has terms that could, at the option of the counterparty, result in its settlement by the transfer of the entity's own equity instruments, these terms do not affect its classification as current or non-current only if the entity recognises the option separately as an equity instrument applying IAS 32 *Financial Instruments: Presentation ("IAS 32")*.

The 2022 Amendments modify the requirements introduced by the 2020 Amendments on how an entity classifies debt and other financial liabilities with covenants as current or non-current. The 2022 Amendments specify that only covenants with which the entity is requited to comply with on or before the end of the reporting period affect the entity's right to defer settlement of a liability for at least twelve months after the reporting period. Covenants which are required to comply with only after the reporting period do not affect whether that right exists at the end of the reporting period.

The 2022 Amendments also specify the disclosure requirements about information that enables users of financial statements to understand the risk that the liabilities could become repayable within twelve months after the reporting period, if the entity classify liabilities arising from loan arrangements as non-current when the entity's right to defer settlement of those liabilities is subject to the entity complying with covenants within twelve months after the reporting period.

The 2022 Amendments also defer the effective date of the 2020 Amendments to annual reporting periods beginning on or after 1 January 2024. The 2022 Amendments, together with the 2020 Amendments, are effective for annual reporting periods beginning on or after 1 January 2024, with early application permitted.

Based on the Group's outstanding liabilities as at 31 December 2022 and the related terms and conditions stipulated in the agreements between the Group and the relevant lenders, the application of the amendments will not result in a reclassification of the Group's liabilities.

Amendments to IAS 1 and IFRS Practice Statement 2 Disclosure of Accounting Policies

IAS 1 is amended to replace all instances of the term "significant accounting policies" with "material accounting policy information". Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

The amendments also clarify that accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material. If an entity chooses to disclose immaterial accounting policy information, such information must not obscure material accounting policy information.

3. APPLICATION OF NEW AND AMENDMENTS TO INTERNATIONAL FINANCIAL REPORTING STANDARDS ("IFRS STANDARDS") (Continued)

Amendments to IAS 1 and IFRS Practice Statement 2 Disclosure of Accounting Policies (Continued)

IFRS Practice Statement 2 Making Materiality Judgements (the "Practice Statement") is also amended to illustrate how an entity could judge whether information about an accounting policy is material to its financial statements. Guidance and examples are added to the Practice Statement to help entities apply its "four-step materiality process" to accounting policy disclosures.

The directors of the Company do not expect the amendments will have material impact on the financial position or performance of the Group. The impacts of application on disclosures or presentation, if any, will be disclosed in the Group's future consolidated financial statements.

Amendments to IAS 8 Definition of Accounting Estimates

The amendments define accounting estimates as "monetary amounts in financial statements that are subject to measurement uncertainty". Accounting policies may require items in financial statements to be measured in a way that involves measurement uncertainty – that is, the accounting policy may require such items to be measured at monetary amounts that cannot be observed directly and must instead be estimated. In such a case, an entity develops an accounting estimate to achieve the objective set out by the accounting policy. Developing accounting estimates involves the use of judgements or assumptions based on the latest available, reliable information.

In addition, the concept of changes in accounting estimates in IAS 8 is retained with the additional clarifications.

4. SIGNIFICANT ACCOUNTING POLICIES

The principal accounting policies are set out below.

Basis of consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company and its subsidiaries. Control is achieved when the Company:

- has power over the investee;
- is exposed, or has rights, to variable returns from its involvement with the investee; and
- has the ability to use its power to affect its returns.

The Group reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Basis of consolidation (Continued)

When the Group has less than a majority of the voting rights of an investee, it has power over the investee when the voting rights are sufficient to give it the practical ability to direct the relevant activities of the investee unilaterally. The Group considers all relevant facts and circumstances in assessing whether or not the Group's voting rights in an investee are sufficient to give it power, including:

- the size of the Group's holding of voting rights relative to the size and dispersion of holdings of the other vote holders;
- potential voting rights held by the Group, other vote holders or other parties;
- rights arising from other contractual arrangements; and
- any additional facts and circumstances that indicate that the Group has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Specifically, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of profit or loss and other comprehensive income from the date the Group gains control until the date when the Group ceases to control the subsidiary.

Profit or loss and each item of other comprehensive income ("OCI") are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies in line with the Group's accounting policies.

All intragroup assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

Non-controlling interests in subsidiaries are presented separately from the Group's equity therein, which represent present ownership interests entitling their holders to a proportionate share of net assets of the relevant subsidiaries upon liquidation.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Changes in the Group's interests in existing subsidiaries

Changes in the Group's interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Group's relevant components of equity and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries, including re-attribution of relevant reserves between the Group and the non–controlling interests according to the Group's and the non-controlling interests' proportionate interests.

Any difference between the amount by which the non-controlling interests are adjusted, and the fair value of the consideration paid or received is recognised directly in equity and attributed to owners of the Company.

When the Group loses control of a subsidiary, the assets and liabilities of that subsidiary and non-controlling interest (if any) are derecognised. A gain or loss is recognised in profit or loss and is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the carrying amount of the assets (including goodwill), and liabilities of the subsidiary attributable to the owners of the Company. All amounts previously recognised in OCI in relation to that subsidiary are accounted for as if the Group had directly disposed of the related assets or liabilities of the subsidiary (i.e. reclassified to profit or loss or transferred to another category of equity as specified/permitted by applicable IFRS Standards). The fair value of any investment retained in the former subsidiary at the date when control is lost is regarded as the fair value on initial recognition for subsequent accounting under IFRS 9 Financial Instruments ("IFRS 9") or, when applicable, the cost on initial recognition of an investment in an associate or a joint venture.

Business combinations

Operation concentration test

The Group can elect to apply an optional concentration test, on a transaction-by-transaction basis, that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The concentration test is met if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets. The gross assets under assessment exclude cash equivalents, deferred tax assets, and goodwill resulting from the effect of deferred tax liabilities. If the concentration test is met, the set of activities and assets is determined not to be a business and no further assessment is needed.

Asset acquisitions

When the Group acquires a subsidiary or group of assets and liabilities that do not constitute a business, the Group identifies and recognises the individual identifiable assets acquired and liabilities assumed by allocating the purchase price first to financial assets/financial liabilities at the respective fair values, the remaining balance of the purchase price is then allocated to the other identifiable assets and liabilities on the basis of their relative fair values at the date of purchase. Such a transaction does not give rise to goodwill or bargain purchase gain.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Business combinations (Continued)

Acquisitions of businesses

Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. Acquisition–related costs are generally recognised in profit or loss as incurred.

For business combinations in which the acquisition date is on or after 1 January 2022, the identifiable assets acquired and liabilities assumed must meet the definitions of an asset and a liability in the *Conceptual Framework for Financial Reporting* issued by International Accounting Standards Board in March 2018 (the "Conceptual Framework") except for transactions and events within the scope of IAS 37 or IFRIC 21, in which the Group applies IAS 37 or IFRIC 21 instead of the Conceptual Framework to identify the liabilities it has assumed in a business combination. Contingent assets are not recognised.

At the acquisition date, the identifiable assets acquired and the liabilities assumed are recognised at their fair value, except that:

- deferred tax assets or liabilities, and assets or liabilities related to employee benefit arrangements are recognised and measured in accordance with IAS 12 *Income Taxes* and IAS 19 *Employee Benefits* respectively;

- liabilities or equity instruments related to share-based payment arrangements of the acquiree or share–based payment arrangements of the Group entered into to replace share-based payment arrangements of the acquiree are measured in accordance with IFRS 2 at the acquisition date (see the accounting policy below);

- assets (or disposal groups) that are classified as held for sale in accordance with IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations* are measured in accordance with that standard; and

- lease liabilities are recognised and measured at the present value of the remaining lease payments (as defined in IFRS 16) as if the acquired leases were new leases at the acquisition date, except for leases for which (a) the lease term ends within 12 months of the acquisition date; or (b) the underlying asset is of low value. Right-of-use assets are recognised and measured at the same amount as the relevant lease liabilities, adjusted to reflect favourable or unfavourable terms of the lease when compared with market terms. Right-of-use assets relating to leasehold lands in which the relevant acquires are the registered owners with full upfront lease payments measured at fair value.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Business combinations (Continued)

Acquisitions of businesses (Continued)

Goodwill is measured as the excess of the sum of the consideration transferred, the amount of any non–controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net amount of the identifiable assets acquired and the liabilities assumed as at acquisition date. If, after reassessment, the net amount of the identifiable assets acquired and liabilities assumed exceeds the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree and the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognised immediately in profit or loss as a bargain purchase gain.

Non-controlling interests that are present ownership interests and entitle their holders to a proportionate share of the relevant subsidiary's net assets in the event of liquidation are initially measured at the non–controlling interests' proportionate share of the recognised amounts of the acquiree's identifiable net assets or at fair value. The choice of measurement basis is made on a transaction-by-transaction basis. Other types of non-controlling interests are measured at their fair value.

Investments in associates and joint ventures

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The results and assets and liabilities of associates and joint ventures are incorporated in these consolidated financial statements using the equity method of accounting. The financial statements of associates and joint ventures used for equity accounting purposes are prepared using uniform accounting policies as those of the Group for like transactions and events in similar circumstances. Under the equity method, an investment in an associate or a joint venture is initially recognised in the consolidated statement of financial position at cost and adjusted thereafter to recognise the Group's share of the profit or loss and OCI of the associate or joint venture. When the Group's share of losses of an associate or a joint venture exceeds the Group's interest in that associate or joint venture (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate or joint venture), the Group discontinues recognising its share of further losses. Additional losses are recognised only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate or joint venture.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Investments in associates and joint ventures (Continued)

An investment in an associate or a joint venture is accounted for using the equity method from the date on which the investee becomes an associate or a joint venture. On acquisition of the investment in an associate or a joint venture, any excess of the cost of the investment over the Group's share of the net fair value of the identifiable assets and liabilities of the investee is recognised as goodwill, which is included within the carrying amount of the investment. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of the investment, after reassessment, is recognised immediately in profit or loss in the period in which the investment is acquired.

The Group assesses whether there is an objective evidence that the interest in an associate or a joint venture may be impaired. When any objective evidence exists, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with IAS 36 as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs of disposal) with its carrying amount. Any impairment loss recognised is not allocated to any asset, including goodwill, that forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognised in accordance with IAS 36 to the extent that the recoverable amount of the investment subsequently increases.

When the Group ceases to have significant influence over an associate or a joint venture, it is accounted for as a disposal of the entire interest in the investee with a resulting gain or loss being recognised in profit or loss. When the Group retains an interest in the former associate or joint venture and the retained interest is a financial asset within the scope of IFRS 9, the Group measures the retained interest at fair value at that date and the fair value is regarded as its fair value on initial recognition. The difference between the carrying amount of the associate or joint venture and the fair value of any retained interest and any proceeds from disposing of the relevant interest in the associate or joint venture is included in the determination of the gain or loss on disposal of the associate or joint venture. In addition, the Group accounts for all amounts previously recognised in OCI in relation to that associate or joint venture on the same basis as would be required if that associate or joint venture had directly disposed of the related assets or liabilities. Therefore, if a gain or loss previously recognised in OCI by that associate or joint venture would be reclassified to profit or loss on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as a reclassification adjustment) upon disposal/partial disposal of the relevant associate or joint venture.

When the Group reduces its ownership interest in an associate or a joint venture but the Group continues to use the equity method, the Group reclassifies to profit or loss the proportion of the gain or loss that had previously been recognised in OCI relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities.

When a group entity transacts with an associate or a joint venture of the Group, profits and losses resulting from the transactions with the associate or joint venture are recognised in the Group's consolidated financial statements only to the extent of interests in the associate or joint venture that are not related to the Group.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Non-current assets and disposal groups held for sale

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the asset (or disposal group) is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such asset (or disposal group) and its sale is highly probable. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

When the Group is committed to a sale plan involving loss of control of a subsidiary, all of the assets and liabilities of that subsidiary are classified as held for sale when the criteria described above are met, regardless of whether the Group will retain a non-controlling interest in the relevant subsidiary after the sale.

When the Group is committed to a sale plan involving disposal of an investment, or a portion of an investment, in an associate or joint venture, the investment or the portion of the investment that will be disposed of is classified as held for sale when the criteria described above are met, and the Group discontinues the use of the equity method in relation to the portion that is classified as held for sale from the time when the investment (or a portion of the investment) is classified as held for sale.

Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their previous carrying amount and fair value less costs to sell, except for financial assets within the scope at IFRS 9, investment properties and deferred tax assets which continue to be measured in accordance with the accounting policies as set out in respective sections. Immediately before the initial classification of the asset (or disposal group) as held for sale, the carrying amounts of the assets (or all the assets and liabilities in the group) are measured in accordance with applicable IFRSs.

Discontinued operations

A discontinued operation is a component of the Group's business, the operations and cash flows of which can be clearly distinguished from the rest of the Group that either has been disposed of or is classified as held for sale and which represents a separate major line of business or geographical area of operations, or is part of a single co-ordinated plan to dispose of a separate major line of business or geographical area of operations, or is a subsidiary acquired exclusively with a view to resale.

Classification as a discontinued operation occurs upon disposal or when the operation meets the criteria to be classified as held for sale, if earlier. It also occurs if the operation is abandoned.

Where an operation is classified as discontinued, a single amount is presented on the face of the statement of profit or loss, which comprises:

– the post-tax profit or loss of the discontinued operation; and

– the post-tax gain or loss recognised on the measurement to fair value less costs to sell, or on the disposal, of the assets or disposal group(s) constituting the discontinued operation.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers

The Group recognises revenue when (or as) a performance obligation is satisfied, i.e., when "control" of the goods or services underlying the particular performance obligation is transferred to the customer.

A performance obligation represents a good or service (or a bundle of goods or services) that is distinct or a series of distinct goods or services that are substantially the same.

Control is transferred over time and revenue is recognised over time by reference to the progress towards complete satisfaction of the relevant performance obligation if one of the following criteria is met:

- the customer simultaneously receives and consumes the benefits provided by the Group's performance as the Group performs;
- the Group's performance creates or enhances an asset that the customer controls as the Group performs; or
- the Group's performance does not create an asset with an alternative use to the Group and the Group has an enforceable right to payment for performance completed to date.

Otherwise, revenue is recognised at a point in time when the customer obtains control of the distinct good or service.

Revenue from sales of electricity is recognised at a point in time when the control of the electricity transferred, being at the point when electricity has generated and transmitted to the customer.

Operation and management service income, consultancy fee income and solar related supporting services income are recognised over time when services are rendered.

A contract asset represents the Group's right to consideration in exchange for goods or services that the Group has transferred to a customer that is not yet unconditional. It is assessed for impairment in accordance with IFRS 9. In contrast, a receivable represents the Group's unconditional right to consideration, i.e., only the passage of time is required before payment of that consideration is due.

A contract liability represents the Group's obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer.

A contract asset and a contract liability relating to the same contract are accounted for and presented on a net basis.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers (Continued)

Over time revenue recognition: measurement of progress towards complete satisfaction of a performance obligation

Output method

The progress towards complete satisfaction of a performance obligation is measured based on output method, which is to recognise revenue on the basis of direct measurements of the value of the goods or services transferred to the customer to date relative to the remaining goods or services promised under the contract, that best depict the Group's performance in transferring control of goods or services.

As a practical expedient, if the Group has a right to consideration in an amount that corresponds directly with the value of the Group's performance completed to date, the Group recognises revenue in the amount to which the Group has the right to invoice.

Variable consideration

For contracts that contain variable consideration in relation to sales of electricity to the grid companies which contain tariff adjustments related to solar power plants yet to be enlisted in the List (as defined in note 6) by the PRC government, the Group estimates the amount of consideration to which it will be entitled using the most likely amount.

The estimated amount of variable consideration is included in the transaction price only to the extent that it is highly probable that such an inclusion will not result in a significant revenue reversal in the future when the uncertainty with the variable consideration is subsequently resolved.

At the end of each reporting period, the Group updates the estimated transaction price (including updating its assessment of whether an estimate of variable consideration is constrained) to represent faithfully the circumstances present at the end of the reporting period and the changes in circumstances during the reporting period.

Existence of significant financing component

In determining the transaction price, the Group adjusts the promised amount of consideration for the effects of the time value of money if the timing of payments agreed (either explicitly or implicitly) provides the customer or the Group with a significant benefit of financing the transfer of goods or services to the customer. In those circumstances, the contract contains a significant financing component. A significant financing component may exist regardless of whether the promise of financing is explicitly stated in the contract or implied by the payment terms agreed to by the parties to the contract.

For contracts where the period between payment and transfer of the associated goods or services is less than one year, the Group applies the practical expedient of not adjusting the transaction price for any significant financing component.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases

Definition of a lease

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

For contracts entered into or modified on or after the date of initial application or arising from business combinations, the Group assesses whether a contract is or contains a lease based on the definition under IFRS 16 at inception, modification date or acquisition date, as appropriate. Such contract will not be reassessed unless the terms and conditions of the contract are subsequently changed.

The Group as a lessee

Allocation of consideration to components of a contract

For a contract that contains a lease component and one or more additional lease or non-lease components, the Group allocates the consideration in the contract to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components.

The Group applies practical expedient not to separate non-lease component from lease component, and instead account for the lease component and any associated non-lease components as a single lease component.

Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option. It also applies the recognition exemption for lease of low-value assets. Lease payments on short-term leases and leases of low– value assets are recognised as expense on a straight-line basis or another systematic basis over the lease term.

Right-of-use assets

The cost of right-of-use asset includes:

- the amount of the initial measurement of the lease liability;
- any lease payments made at or before the commencement date, less any lease incentives received;
- any initial direct costs incurred by the Group; and
- an estimate of costs to be incurred by the Group in dismantling and removing the underlying assets, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease.

Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases (Continued)

The Group as a lessee (Continued)

Right-of-use assets in which the Group is reasonably certain to obtain ownership of the underlying leased assets at the end of the lease term are depreciated from commencement date to the end of the useful life. Otherwise, right-of-use assets are depreciated on a straight-line basis over the shorter of its estimated useful life and the lease term.

When the group obtains ownership of the underlying leased assets at the end of the lease term, upon exercising purchase options the carrying amount of the relevant right-of-asset is transferred to property, plant and equipment.

The Group presents right-of-use assets as a separate line item on the consolidated statement of financial position.

Refundable rental deposits

Refundable rental deposits paid are accounted under IFRS 9 and initially measured at fair value. Adjustments to fair value at initial recognition are considered as additional lease payments and included in the cost of right-of-use assets.

Lease liabilities

At the commencement date of a lease, the Group recognises and measures the lease liability at the present value of lease payments that are unpaid at that date. In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable.

The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable.

After the commencement date, lease liabilities are adjusted by interest accretion and lease payments.

The lease liability is remeasured when there is a change in future lease payments arising from reassessment of whether the Group will be reasonably certain to exercise a purchase, extension or termination option. When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

In the consolidated statement of financial position, the current portion of long-term lease liabilities is determined as the present value of contractual payments that are due to be settled within twelve months after the reporting period.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases (Continued)

The Group as a lessee (Continued)

Lease modifications

Changes in considerations of lease contracts that were not part of the original terms and conditions are accounted for as lease modifications, including lease incentives provided through forgiveness or reduction of rentals.

The Group accounts for a lease modification as a separate lease if:

- the modification increases the scope of the lease by adding the right to use one or more underlying assets; and
- the consideration for the leases increases by an amount commensurate with the stand-alone price for the increase in scope and any appropriate adjustments to that stand-alone price to reflect the circumstances of the particular contract.

For a lease modification that is not accounted for as a separate lease, the Group remeasures the lease liability based on the lease term of the modified lease by discounting the revised lease payments using a revised discount rate at the effective date of the modification. When the modified contract contains one or more additional lease components, the Group allocates the consideration in the modified contract to each lease component on the basis of the relative stand-alone price of the lease component. The associated non-lease components are included in the respective lease components. The only exceptions are rent concessions that occurred as a direct consequence of the COVID-19 pandemic and met the conditions set out in paragraph 46B of IFRS 16 Leases. In such cases, the Group has taken advantage of the practical expedient not to assess whether the rent concessions are lease modifications, and recognised the change in consideration as negative variable lease payments in profit or loss in the period in which the event or condition that triggers the rent concessions occurred.

The Group accounts for the remeasurement of lease liabilities by making corresponding adjustments to the relevant right-of-use asset.

The Group as a lessor

Classification and measurement of leases

Leases for which the Group is a lessor are classified as finance or operating leases. Whenever the terms of the lease transfer substantially all the risks and rewards incidental to ownership of an underlying asset to the lessee, the contract is classified as a finance lease. All other leases are classified as operating leases.

Rental income from operating leases is recognised in profit or loss on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset, and such costs are recognised as an expense on a straight-line basis over the lease term.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases (Continued)

The Group as a lessor (Continued)

Allocation of consideration to components of a contract

When a contract includes both leases and non-leases components, the Group applies IFRS 15 "Revenue from Contracts with Customers"("IFRS 15") to allocate consideration in a contract to lease and non-lease components. Non-lease components are separated from lease component on the basis of their relative stand-alone selling prices.

Refundable rental deposits

Refundable rental deposits received are accounted for under IFRS 9 and initially measured at fair value.

Sale and leaseback transactions

The Group applies the requirements of IFRS 15 to assess whether sale and leaseback transaction constitutes a sale by the Group.

The Group as a seller-lessee

For a transfer that does not satisfy the requirements as a sale, the Group as a seller-lessee continues to recognise the assets and accounts for the transfer proceeds as loans from a related company and other loans within the scope of IFRS 9.

Foreign currencies

In preparing the financial statements of each individual group entity, transactions in currencies other than the functional currency of that entity (foreign currencies) are recognised at the rates of exchanges prevailing on the dates of the transactions. At the end of the reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at the date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing on the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences arising on the settlement of monetary items, and on the retranslation of monetary items, are recognised in profit or loss in the period in which they arise.

For the purposes of presenting the consolidated financial statements, the assets and liabilities of the Group's foreign operations are translated into the presentation currency of the Group (i.e., RMB) using exchange rate prevailing at the end of each reporting period. Income and expenses items are translated at the average exchange rates for the period, unless exchange rates fluctuate significantly during the period, in which case, the exchange rates prevailing at the dates of transactions are used. Exchange differences arising, if any, are recognised in OCI and accumulated in equity under the heading of translation reserve (attributed to non–controlling interests as appropriate).

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Foreign currencies (Continued)

On the disposal of a foreign operation (that is, a disposal of the Group's entire interest in a foreign operation, or a disposal involving loss of control over a subsidiary that includes a foreign operation, or a partial disposal of an interest in a joint arrangement or an associate that includes a foreign operation of which the retained interest becomes a financial asset), all of the exchange differences accumulated in equity in respect of that operation attributable to the owners of the Company are reclassified to profit or loss.

In addition, in relation to a partial disposal of a subsidiary that does not result in the Group losing control over the subsidiary, the proportionate share of accumulated exchange differences are re-attributed to non–controlling interests and are not recognised in profit or loss. For all other partial disposals (i.e., partial disposals of associates or joint arrangements that do not result in the Group losing significant influence or joint control), the proportionate share of the accumulated exchange differences is reclassified to profit or loss.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets until such time as the assets are substantially ready for their intended use or sale.

Any specific borrowing that remain outstanding after the related asset is ready for its intended use or sale is included in the general borrowing pool for calculation of capitalisation rate on general borrowings. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalisation.

All other borrowing costs are recognised in profit or loss in the period in which they are incurred.

Government grants

Government grants are not recognised until there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

Government grants are recognised in profit or loss on a systematic basis over the periods in which the Group recognises as expenses the related costs for which the grants are intended to compensate. Specifically, government grants whose primary condition is that the Group should purchase, construct or otherwise acquire non-current assets are recognised as deferred income in the consolidated statement of financial position and transferred to profit or loss on a systematic and rational basis over the useful lives of the related assets.

Government grants related to income that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognised in profit or loss in the period in which they become receivable. Government grants relating to compensation of expenses are deducted from the related expenses, other government grants are presented under "other income".

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Retirement benefit costs

Payments to defined contribution retirement benefit plans including state-managed retirement benefit schemes and the Mandatory Provident Fund Scheme are recognised as an expense when employees have rendered service entitling them to the contributions.

Short-term employee benefits

Short-term employee benefits are recognised at the undiscounted amount of the benefits expected to be paid as and when employees rendered the services. All short-term employee benefits are recognised as an expense unless another IFRS requires or permits the inclusion of the benefit in the cost of an asset.

A liability is recognised for benefits accruing to employees (such as wages and salaries, annual leave and sick leave) after deducting any amount already paid.

Shares held for share award schemes

The consideration paid by the Trustee for purchasing the Company's shares from the market, including any directly attributable incremental cost, is presented as "Shares held for share award schemes" and the amount is deducted from total equity.

When the Company's shares are transferred to the awardees upon vesting, the related costs of the award shares vested are credited to "Shares held for share award schemes", with a corresponding adjustment made to "Share premium".

Share-based compensation benefits

The Group operates a number of share-based compensation plans (including share option schemes and share award schemes), under which the Group receives services from employees and other qualifying participants as consideration for equity instruments (including share options and award shares) of the Group. The fair value of the employee services and other qualifying participants' services received in exchange for the grant of equity instruments of the Group is recognised as an expense over the vesting period, i.e. the period over which all of the specified vesting conditions are to be satisfied and credited to equity.

For grant of share options and award shares under the Scheme to employees and others providing similar services, the total amount to be expensed is determined by reference to the fair value of the options and award shares under the Scheme granted by using option-pricing model, which includes the impact of market performance conditions (such as the Company's share price) but excludes the impact of service condition and non-market performance conditions.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Share-based compensation benefits (Continued)

Non-market performance and service conditions are included in assumptions about the number of options that are expected to become vested.

From the perspective of the Company, the grants of its equity instruments to employees of its subsidiaries are made in exchange for their services related to the subsidiaries. Accordingly, the share-based compensation expenses are treated as part of the "Investments in subsidiaries" or "Other receivables" in the Company's statement of financial position.

At the end of each reporting period, the Group revises the estimates of the number of options and award shares that are expected to ultimately vest. It recognises the impact of the revision to original estimates, if any, in the consolidated income statement of the Group, with a corresponding adjustment to share options reserve and share award reserve respectively.

When the options are exercised, the proceeds received net of any directly attributable transaction costs and the amount previously recognised in share options reserve are credited to share capital (nominal value) and share premium. When the vested equity instruments are later forfeited prior to expiry date, the amount previously recognised in share options reserve will be transferred to accumulated profits.

If the terms of an equity-settled award are modified, at a minimum an expense is recognised as if the terms had not been modified. An additional expense is recognised for any modification that increases the total fair value of the share-based payment arrangement, or is otherwise beneficial to the employees and other qualifying participants, as measured at the date of modification.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit/loss before tax because of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax is recognised on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognised for all taxable temporary differences. Deferred tax assets are generally recognised for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilised. Such deferred tax assets and liabilities are not recognised if the temporary difference arises from the initial recognition (other than in a business combination) of assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit. In addition, deferred tax liabilities are not recognised if the temporary difference arises from the initial recognition of goodwill.

Deferred tax liabilities are recognised for taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint ventures, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary differences will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognised to the extent that it is probable that there will be sufficient taxable profits against which to utilise the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Taxation (Continued)

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset is realised, based on tax rate (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

For the purposes of measuring deferred tax for leasing transactions in which the Group recognises the right–of-use assets and the related lease liabilities, the Group first determines whether the tax deductions are attributable to the right-of-use assets or the lease liabilities.

For leasing transactions in which the tax deductions are attributable to the lease liabilities, the Group applies IAS 12 Income Taxes requirements to the leasing transaction as a whole. Temporary differences relating to right-of-use assets and lease liabilities are assessed on a net basis. Excess of depreciation on right-of-use assets over the lease payments for the principal portion of lease liabilities resulting in net deductible temporary differences.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied to the same taxable entity by the same taxation authority.

Current and deferred tax are recognised in profit or loss, except when they relate to items that are recognised in OCI or directly in equity, in which case, the current and deferred tax are also recognised in OCI or directly in equity respectively. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

In assessing any uncertainty over income tax treatments, the Group considers whether it is probable that the relevant tax authority will accept the uncertain tax treatment used, or proposed to be use by individual group entities in their income tax filings. If it is probable, the current and deferred taxes are determined consistently with the tax treatment in the income tax filings. If it is not probable that the relevant taxation authority will accept an uncertain tax treatment, the effect of each uncertainty is reflected by using either the most likely amount or the expected value.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Property, plant and equipment

Property, plant and equipment are tangible assets that are held for use in the production or supply of goods or services, or for administration purposes (other than properties under construction as described below). Property, plant and equipment are stated in the consolidated statement of financial position at cost less subsequent accumulated depreciation and subsequent accumulated impairment losses, if any.

Property, plant and equipment in the course of construction for production, supply or administrative purposes are carried at cost, less any recognised impairment loss. Costs include any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and, for qualifying assets, borrowing costs capitalised in accordance with the Group's accounting policy. Depreciation of these assets, on the same basis as other property assets, commences when the assets are ready for their intended use.

When the Group makes payments for ownership interests of properties which includes both leasehold land and building elements, the entire consideration is allocated between the leasehold land and the building elements in proportion to the relative fair values at initial recognition. To the extent the allocation of the relevant payments can be made reliably, interest in leasehold land that is accounted for as an operating lease is presented as "right-of-use assets" in the consolidated statement of financial position. When the consideration cannot be allocated reliably between non-lease building element and undivided interest in the underlying leasehold land, the entire properties are classified as property, plant and equipment.

Depreciation is recognised so as to write off the cost of assets other than properties under construction less their residual values over their estimated useful lives, using the straight-line method. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognised in profit or loss.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Investment properties

Investment properties are properties held to earn rentals and/or for capital appreciation.

Investment properties are initially measured at cost, including any directly attribution expenditure. Subsequent to initial recognition, investment properties are stated at cost less subsequent accumulated depreciation and any accumulated impairment losses. Depreciation is recognised so as to write off the cost of investment properties over their estimated useful lives and after taking into account of their estimated residual value, using the straight-line method.

An investment property is derecognised upon disposal or when the investment property is permanently withdrawn from use and no future economic benefits are expected from its disposals. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognised.

Intangible assets

Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are carried at costs less accumulated amortisation and any accumulated impairment losses. Amortisation for intangible assets with finite useful lives is recognised on a straight-line basis over their estimated useful lives. The estimated useful lives and amortisation method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

Internally-generated intangible assets – research and development expenditure

Expenditure on research activities is recognised as an expense in the period in which it is incurred.

An internally-generated intangible asset arising from development activities (or from the development phase of an internal project) is recognised if, and only if, all of the following have been demonstrated:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- the intention to complete the intangible asset and use or sell it;
- the ability to use or sell the intangible asset;

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Intangible assets (Continued)

Internally-generated intangible assets – research and development expenditure (Continued)

- how the intangible asset will generate probable future economic benefits;
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- the ability to measure reliably the expenditure attributable to the intangible asset during its development.

The amount initially recognised for internally-generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria listed above. Where no internally-generated intangible asset can be recognised, development expenditure is recognised in profit or loss in the period in which it is incurred.

Subsequent to initial recognition, internally-generated intangible assets are reported at cost less accumulated amortisation and accumulated impairment losses (if any), on the same basis as intangible assets that are acquired separately.

An intangible asset is derecognised on disposal, or when no future economic benefits are expected from use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognised in profit or loss when the asset is derecognised.

Impairment on property, plant and equipment, right-of-use assets and intangible assets other than goodwill

At the end of the reporting period, the Group reviews the carrying amounts of its property, plant and equipment, right-of-use assets and intangible assets with finite useful lives to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the relevant asset is estimated in order to determine the extent of the impairment loss (if any).

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Impairment on property, plant and equipment, right-of-use assets and intangible assets other than goodwill (Continued)

The recoverable amount of property, plant and equipment, right-of-use assets and intangible assets are estimated individually. When it is not possible to estimate the recoverable amount individually, the Group estimates the recoverable amount of the cash-generating unit ("CGU") to which the asset belongs.

In testing a CGU for impairment, corporate assets are allocated to the relevant CGU when a reasonable and consistent basis of allocation can be established, or otherwise they are allocated to the smallest group of CGUs for which a reasonable and consistent allocation basis can be established. The recoverable amount is determined for the CGU or group of CGUs to which the corporate asset belongs, and is compared with the carrying amount of the relevant CGU or group of CGUs.

Recoverable amount is the higher of fair value less costs of disposal and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset (or a CGU) for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or a CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or the CGU) is reduced to its recoverable amount. For corporate assets or portion of corporate assets which cannot be allocated on a reasonable and consistent basis to a CGU, the Group compares the carrying amount of a group of CGUs, including the carrying amounts of the corporate assets or portion of corporate assets allocated to that group of CGUs, with the recoverable amount of the group of CGUs. In allocating the impairment loss, the impairment loss is allocated first to reduce the carrying amount of any goodwill (if applicable) and then to the other assets on a pro-rata basis based on the carrying amount of each asset in the unit or the group of CGUs. The carrying amount of an asset is not reduced below the highest of its fair value less costs of disposal (if measurable), its value in use (if determinable) and zero. The amount of the impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other assets of the unit or the group of CGUs. An impairment loss is recognised immediately in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or CGU or a group of CGUs) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or a CGU or a group of CGUs) in prior years. A reversal of an impairment loss is recognised immediately in profit or loss.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Treasury shares

Own equity instruments which are held by the Group (treasury shares) for cancellation are recognised directly in equity at cost. No gain or loss is recognised in the consolidated statement of profit or loss on the purchase, sale, issue or cancellation of the Group's own equity instruments.

Inventories

Inventories are stated at the lower of cost and net realisable value. Costs of inventories are determined on a weighted average method. Net realisable value represents the estimated selling price for inventories less all estimated costs of completion and costs necessary to make the sale.

Financial instruments

Financial assets and financial liabilities are recognised when a group entity becomes a party to the contractual provisions of the instruments. All regular way purchases or sales of financial assets are recognised and derecognised on a trade date basis. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the market place.

Financial assets and financial liabilities are initially measured at fair value except for trade receivables arising from contracts with customers which are initially measured in accordance with IFRS 15. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at FVTPL) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at FVTPL are recognised immediately in profit or loss.

The effective interest method is a method of calculating the amortised cost of a financial asset or financial liability and of allocating interest income and interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts and payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial asset or financial liability, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

Financial assets

Classification and subsequent measurement of financial assets

Financial assets that meet the following conditions are subsequently measured at amortised cost:

- the financial asset is held within a business model whose objective is to collect contractual cash flows; and
- the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Classification and subsequent measurement of financial assets (Continued)

Financial assets that meet the following conditions are subsequently measured at FVTOCI:

- the financial asset is held within a business model whose objective is achieved by both selling and collecting contractual cash flows; and
- the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

All other financial assets are subsequently measured at FVTPL, except that at the date of initial application of IFRS 9/initial recognition of a financial asset, the Group may irrevocably elect to present subsequent changes in fair value of an equity investment in OCI if that equity investment is neither held for trading nor contingent consideration recognised by an acquirer in a business combination to which IFRS 3 *Business Combinations* applies.

A financial asset is held for trading if:

- it has been acquired principally for the purpose of selling in the near term; or
- on initial recognition it is a part of a portfolio of identified financial instruments that the Group manages together and has a recent actual pattern of short-term profit-taking; or
- it is a derivative that is not designated and effective as a hedging instrument.

In addition, the Group may irrevocably designate a financial asset that is required to be measured at amortised cost or FVTOCI as measured at FVTPL if doing so eliminates or significantly reduces an accounting mismatch.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Classification and subsequent measurement of financial assets (Continued)

(i) Amortised cost and interest income

Interest income is recognised using the effective interest method for financial assets measured subsequently at amortised cost and debt instruments subsequently measured at FVTOCI. Interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that have subsequently become credit-impaired. For financial assets that have subsequently become credit-impaired, interest income is recognised by applying the effective interest rate to the amortised cost of the financial asset from the next reporting period. If the credit risk on the credit-impaired financial instrument improves so that the financial asset is no longer credit-impaired, interest income is recognised by applying the effective interest rate to the gross carrying amount of the financial asset from the beginning of the reporting period following the determination that the asset is no longer credit-impaired.

(ii) Equity instruments designated as at FVTOCI

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognised in OCI and accumulated in the investments revaluation reserve; and are not subject to impairment assessment. The cumulative gain or loss will not be reclassified to profit or loss on disposal of the equity investments, but will be transferred to accumulated profits.

Dividends from these investments in equity instruments are recognised in profit or loss when the Group's right to receive the dividends is established, unless the dividends clearly represent a recovery of part of the cost of the investment. Dividends are included in the "other income" line item in profit or loss.

(iii) Financial assets at FVTPL

Financial assets that do not meet the criteria for being measured at amortised cost or FVTOCI or designated as FVTOCI are measured at FVTPL.

Financial assets at FVTPL are measured at fair value at the end of each reporting period, with any fair value gains or losses recognised in profit or loss. The net gain or loss recognised in profit or loss includes any dividend or interest earned on the financial asset and is included in the "other expenses, gains and losses, net" line item.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets, financial guarantee contracts and contract assets

The Group performs impairment assessment under expected credit loss ("ECL") model on financial assets (including trade and other receivables, amounts due from related companies, pledged and restricted bank and other deposits and bank balances), financial guarantee contracts and contract assets which are subject to impairment under IFRS 9. The amount of ECL is updated at each reporting date to reflect changes in credit risk since initial recognition.

Lifetime ECL represents the ECL that will result from all possible default events over the expected life of the relevant instrument. In contrast, 12-month ECL ("12m ECL") represents the portion of lifetime ECL that is expected to result from default events that are possible within 12 months after the reporting date. Assessments are done based on the Group's historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current conditions at the reporting date as well as the forecast of future conditions.

The Group always recognises lifetime ECL for trade receivables, amounts due from related companies (trade related) and contract assets, including those with significant financing component.

For all other instruments, the Group measures the loss allowance equals to 12m ECL, unless when there has been a significant increase in credit risk since initial recognition, the Group recognises lifetime ECL. The assessment of whether lifetime ECL should be recognised is based on significant increases in the likelihood or risk of a default occurring since initial recognition.

(i) Significant increase in credit risk

In assessing whether the credit risk has increased significantly since initial recognition, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition. In making this assessment, the Group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets, financial guarantee contracts and contract assets (Continued)

(i) Significant increase in credit risk (Continued)

In particular, the following information is taken into account when assessing whether credit risk has increased significantly:

- an actual or expected significant deterioration in the financial instrument's external (if available) or internal credit rating;
- significant deterioration in external market indicators of credit risk, e.g., a significant increase in the credit spread, the credit default swap prices for the debtor;
- existing or forecast adverse changes in business, financial or economic conditions that are expected to cause a significant decrease in the debtor's ability to meet its debt obligations;
- an actual or expected significant deterioration in the operating results of the debtor; and
- an actual or expected significant adverse change in the regulatory, economic, or technological environment of the debtor that results in a significant decrease in the debtor's ability to meet its debt obligations.

Irrespective of the outcome of the above assessment, the Group presumes that the credit risk has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the Group has reasonable and supportable information that demonstrates otherwise.

For financial guarantee contracts, the date that the Group becomes a party to the irrevocable commitment is considered to be the date of initial recognition for the purposes of assessing impairment. In assessing whether there has been a significant increase in the credit risk since initial recognition of financial guarantee contracts, the Group considers the changes in the risk that the specified debtor will default on the contract.

The Group regularly monitors the effectiveness of the criteria used to identify whether there has been a significant increase in credit risk and revises them as appropriate to ensure that the criteria are capable of identifying significant increase in credit risk before the amount becomes past due.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets, financial guarantee contracts and contract assets (Continued)

(ii) Definition of default

For internal credit risk management, the Group considers an event of default occurs when information developed internally or obtained from external sources indicates that the debtor is unlikely to pay its creditors, including the Group, in full (without taking into account any collaterals held by the Group).

Irrespective of the above, the Group considers that default has occurred when a financial asset is more than 90 days past due unless the Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

(iii) Credit-impaired financial assets

A financial asset is credit-impaired when one or more events of default that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Evidence that a financial asset is credit-impaired includes observable data about the following events:

(a) significant financial difficulty of the issuer or the borrower;

(b) a breach of contract, such as a default or past due event;

(c) the lender(s) of the borrower, for economic or contractual reasons relating to the borrower's financial difficulty, having granted to the borrower a concession(s) that the lender(s) would not otherwise consider;

(d) it is becoming probable that the borrower will enter bankruptcy or other financial reorganisation; or

(e) the disappearance of an active market for that financial asset because of financial difficulties.

(iv) Write-off policy

The Group writes off a financial asset when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, for example, when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings, or in the case of trade receivables, when the amounts are over three years past due, whichever occurs sooner. Financial assets written off may still be subject to enforcement activities under the Group's recovery procedures, taking into account legal advice where appropriate. A write-off constitutes a derecognition event. Any subsequent recoveries are recognised in profit or loss.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets, financial guarantee contracts and contract assets (Continued)

(v) Measurement and recognition of ECL

The measurement of ECL is a function of the probability of default, loss given default (i.e., the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information. Estimation of ECL reflects an unbiased and probability-weighted amount that is determined with the respective risks of default occurring as the weights.

Depending on the nature of the financial instruments, the assessment of a significant increase in credit risk is performed on either an individual or a collective basis. When the assessment is performed on a collective basis, the financial instruments are grouped based on shared credit risk characteristics, such as past due status and credit risk ratings.

Generally, the ECL is the difference between all contractual cash flows that are due to the Group in accordance with the contract and the cash flows that the Group expects to receive, discounted at the effective interest rate determined at initial recognition. For a lease receivable, the cash flows used for determining the ECL is consistent with the cash flows used in measuring the lease receivable in accordance with IFRS 16.

For a financial guarantee contract, the Group is required to make payments only in the event of a default by the debtor in accordance with the terms of the instruments that is guaranteed. Accordingly, the expected losses is the present value of the expected payments to reimburse the holder for a credit loss that it incurs less any amounts that the Group expects to receive from the holder, the debtor or any other party.

For ECL on financial guarantee contracts for which the effective interest rate cannot be determined, the Group will apply a discount rate that reflects the current market assessment of the time value of money and the risks that are specific to the cash flows but only if, and to the extent that the risks are taken into account by adjusting the discount rate instead of adjusting the cash shortfalls being discounted.

Interest income is calculated based on the gross carrying amount of the financial asset unless the financial asset is credit-impaired, in which case interest income is calculated based on amortised cost of the financial asset.

For financial guarantee contracts, the loss allowances are recognised at the higher of the amount of the loss allowance determined in accordance with IFRS 9; and the amount initially recognised less, where appropriate, cumulative amount of income recognised over the guarantee period.

Except for financial guarantee contracts, the Group recognises an impairment gain or loss in profit or loss for all financial instruments by adjusting their carrying amount, with the exception of trade receivables, amounts due from related companies (trade related) and contract assets where the corresponding adjustment is recognised through a loss allowance account.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Derecognition of financial assets

The Group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

On derecognition of a financial asset measured at amortised cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognised in profit or loss.

On derecognition of an investment in equity instrument which the Group has elected on initial recognition to measure at FVTOCI, the cumulative gain or loss previously accumulated in the investments revaluation reserve is not reclassified to profit or loss, but is transferred to accumulated profits.

Financial liabilities and equity instruments

Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements entered into and the definitions of a financial liability and an equity instrument.

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Company are recognised at the proceeds received, net of direct issue costs.

Repurchase of the Company's own equity instruments is recognised and deducted directly in equity. No gain or loss is recognised in profit or loss on the purchase, sale, issue or cancellation of the Company's own equity instruments.

Financial liabilities

All financial liabilities are subsequently measured at amortised cost using the effective interest method or at FVTPL.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial liabilities and equity (Continued)

Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL when the financial liability is (i) held for trading or (ii) it is designated as at FVTPL.

A financial liability is held for trading if:

- it has been acquired principally for the purpose of repurchasing it in the near term; or
- on initial recognition it is a part of a portfolio of identified financial instruments that the Group manages together and has a recent actual pattern of short-term profit-taking; or
- it is a derivative, except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument.

Financial liabilities at amortised cost

Financial liabilities including trade and other payables, amounts due to related companies, loans from related companies, bank and other borrowings, notes payables are subsequently measured at amortised cost, using the effective interest method.

Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of a debt instrument. Financial guarantee contract liabilities are measured initially at their fair values. They are subsequently measured at the higher of:

- the amount of the loss allowance determined in accordance with IFRS 9; and
- the amount initially recognised less, where appropriate, cumulative amortisation recognised over the guarantee period.

Derecognition of financial liabilities

The Group derecognises financial liabilities when, and only when, the Group's obligations are discharged, cancelled or have expired. The difference between the carrying amount of the financial lability derecognised and the consideration paid and payable is recognised in profit or loss.

Derivative financial instruments

Derivatives are initially recognised at fair value at the date when derivative contracts are entered into and are subsequently remeasured to their fair value at the end of the reporting period. The resulting gain or loss is recognised in profit or loss unless the derivative is designated and effective as a hedging instrument, in which event the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and on hand, demand deposits with banks and other financial institutions, and short-term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value, having been within three months of maturity at acquisition. Cash and cash equivalents are assessed for ECL in accordance with the policy set out above.

Related parties

(a) A person, or a close member of that person's family, is related to the Group if that person:

- (i) has control or joint control over the Group;
- (ii) has significant influence over the Group; or
- (iii) is a member of the key management personnel of Group or Group's parent.

(b) An entity is related to the Group if any of the following conditions applies:

- (i) The entity and the Group are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others).
- (ii) One entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of a group of which the other entity is a member).
- (iii) Both entities are joint ventures of the same third party.
- (iv) One entity is a joint venture of a third entity and the other entity is an associate of the third entity.
- (v) The entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group.
- (vi) The entity is controlled or jointly controlled by a person identified in (a).
- (vii) A person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity).
- (viii) The entity, or any member of a group of which it is a part, provides key management personnel services of the Group or to the Group's parent.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by, that person in their dealings with the entity.

4. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Distribution of non-cash assets to owners

Upon loss of control of a subsidiary through distribution of shares in the subsidiary to the shareholders of the Company where the subsidiary is ultimately controlled by the same party both before and after the distribution, the Group (i) derecognises the assets and liabilities of the former subsidiary at their carrying amounts and the carrying amount of non-controlling interests in the former subsidiary at the date when control is lost; (ii) recognises its investment retained in the former subsidiary at its fair value when control is lost and subsequently accounts for it as an associate; (iii) reclassify to profit or loss, or transfer directly to accumulated profits if required by other IFRSs, the amounts recognised in other comprehensive income in relation to the former subsidiary; and (iv) recognises the resulting difference as the distribution to the owners of the Company. The difference between the attributable net carrying amount at the date when control is lost and the fair value of the retained interest is also recognised in equity.

5. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

In the application of the Group's accounting policies, which are described in note 4, the Directors are required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and underlying assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an on-going basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

5. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY (Continued)

Key sources of estimation uncertainty

The following are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that may have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

Useful lives and estimated impairment of property, plant and equipment and right-of-use assets

Property, plant and equipment and right-of-use assets are stated at costs less accumulated depreciation and impairment, if any. In determining whether an asset is impaired, the Group has to exercise judgment and make estimation, particularly in assessing: (1) whether an event has occurred or any indicators that may affect the asset value; (2) whether the carrying value of an asset can be supported by the recoverable amount, in the case of value in use, the net present value of future cash flows which are estimated based upon the continued use of the asset; and (3) the appropriate key assumptions to be applied in estimating the recoverable amounts including cash flow projections and an appropriate discount rate. When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the CGU to which the assets belongs, including allocation of corporate assets when a reasonable and consistent basis of allocation can be established, otherwise recoverable amount is determined at the smallest group of CGUs, for which the relevant corporate assets have been allocated. Changing the assumptions and estimates, including the discount rates or revenue growth rates in the cash flow projections, could materially affect the recoverable amounts. Furthermore, the growth rates and discount rates in the cash flow projections are subject to greater uncertainties in the current year due to uncertainty on how the COVID-19 pandemic may progress and evolve and volatility in financial markets and solar industry, including potential disruptions in the Group's solar material business segment.

The Group has made substantial investments in property, plant and equipment. The machineries and equipment are vulnerable to changes in market conditions and vulnerable to changes in government policies.

5. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY (Continued)

Key sources of estimation uncertainty (Continued)

Useful lives and estimated impairment of property, plant and equipment and right-of-use assets (Continued)

With the impairment indicators identified, the carrying amounts of the relevant CGUs may be higher than the recoverable amount which involved estimation uncertainty on assumptions of such recoverable amount.

Additionally, the Group determines the estimated useful lives and related depreciation charges for its property, plant and equipment and right-of-use assets. These estimates are based on the historical experience of the actual useful lives of property, plant and equipment of similar nature and functions. The management will increase the depreciation charge where useful lives are expected to be shorter than previously estimated. Actual economic lives may differ from estimated useful lives. Periodic review could result in a change in depreciable lives and therefore depreciation expense in future periods.

As at 31 December 2022, the carrying amounts of property, plant and equipment and right-of-use assets, were approximately RMB26,531 million and RMB1,571 million (2021: RMB18,293 million and RMB2,299 million) respectively. During the year ended 31 December 2022, the Group recognised impairment on property, plant and equipment, amounting to approximately RMB804 million (2021: RMB61 million) for continuing operations (see note 16).

Provision of ECL on amounts due from related companies (non-trade related)

The Group measures loss allowance equal to 12m ECL for amounts due from related companies (non-trade related). Management regularly reviews the historical payment patterns or financial position of counterparties and overdue status of the receivables. The amount of ECL reflects changes in credit risk since initial recognition and is sensitive to changes in estimates.

As at 31 December 2022, the carrying amounts due from related companies (non-trade related) were approximately RMB568 million (2021: RMB386 million).

The information about the ECL and the Group's amounts due from related companies (non-trade related) are disclosed in notes 44 and 27, respectively.

5. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY (Continued)

Key sources of estimation uncertainty (Continued)

Provision of ECL on trade receivables, amounts due from related companies (trade related) and contract assets

Trade receivables, amounts due from related companies (trade related) and contract assets with significant balances and credit-impaired are assessed for ECL individually.

In addition, the Group uses practical expedient in estimating ECL on trade receivables, amounts due from related companies (trade related) and contract assets which are not assessed individually using a provision matrix. The provision rates are based on internal credit ratings as groupings of various debtors taking into consideration the Group's historical default rates and forward-looking information that is reasonable, supportable and available without undue costs or effort. At every reporting date, the historical observed default rates are reassessed and changes in the forward-looking information are considered.

The provision of ECL is sensitive to changes in estimates. The information about the ECL and the Group's trade receivables, contract assets and amounts due from related companies (trade related) are disclosed in notes 44, 25, 26 and 27, respectively.

Fair value measurement of financial instruments

Certain of the Group's financial assets and financial liabilities as described in note 45 are measured at fair values with fair values being determined based on unobserved inputs using valuation techniques. Judgement and estimation are required in establishing the relevant valuation techniques and the relevant inputs thereof. Changes in assumptions relating to these factors could affect the reported fair values of these instruments. See note 45 for further disclosures.

6. REVENUE AND SEGMENT INFORMATION

Information reported to the Executive Directors of the Company, being collectively the chief operating decision maker ("CODM"), for the purposes of resources allocation and assessment of segment performance focuses on types of goods delivered or services provided, except for the business operations of GNE, which is assessed by the CODM as a separate operating segment.

No operating segments identified by the CODM have been aggregated in arriving at the reportable segments of the Group.

The Group's reportable and operating segments under IFRS 8 Operating Segments are as follows:

Continuing operations

— Solar material business – mainly manufactures and sales of polysilicon and wafer products to companies operating in the solar industry.

— Solar farm business – manages and operates solar farms located in the United States of America (the "USA") and the PRC. These solar farms were constructed or acquired by the Group prior to obtaining a controlling stake in GNE.

Discontinued operation

— New energy business – represents the business operations of GNE, which is principally engaged in the development, construction, operation and management of solar farms. Upon the completion of distribution in specie of shares of GNE (see note 14) during the year, GNE becomes an associate of the Group and the new energy business segment has been classified as discontinued operation.

6. REVENUE AND SEGMENT INFORMATION (Continued)

Segment revenue and results

The following is an analysis of the Group's revenue and results by reportable and operating segments:

Year ended 31 December 2022

	Continuing Operations			Discontinued operation	
	Solar material business RMB'000	Solar farm business RMB'000	Sub-total RMB'000	New energy business RMB'000	Total RMB'000
Segment revenue	35,713,515	216,970	35,930,485	828,607	36,759,092
Elimination of inter-segment revenue	—	—	—	(9,038)	(9,038)
Revenue from external customers	35,713,515	216,970	35,930,485	819,569	36,750,054
Segment profit (loss)	16,535,166	33,897	16,569,063	(956,091)	15,612,972
Unallocated income			113,693	—	113,693
Unallocated expenses			(50,069)	—	(50,069)
Gain on fair value change of investments at FVTPL			5,592	—	5,592
Gain on fair value change of held for trading investments (note 9B)			392	—	392
Impairment losses under expected credit loss model			(147,445)	—	(147,445)
Share of loss of an associate			(29,076)	—	(29,076)
Share of losses of joint ventures			(26,108)	—	(26,108)
Operating expenses allocation for segment reporting purpose (Note)			(13,460)	13,460	—
Profit (loss) for the year			16,422,582	(942,631)	15,479,951

6. REVENUE AND SEGMENT INFORMATION (Continued)

Segment revenue and results (Continued)

Year ended 31 December 2021

	Continuing operations			Discontinued operation	
	Solar material business RMB'000	Solar farm business RMB'000	Sub-total RMB'000	New energy business RMB'000	Total RMB'000
Segment revenue	16,653,431	214,947	16,868,378	2,844,899	19,713,277
Elimination of inter-segment revenue	—	—	—	(15,299)	(15,299)
Revenue from external customers	16,653,431	214,947	16,868,378	2,829,600	19,697,978
Segment profit (loss)	5,350,148	45,995	5,396,143	(580,675)	4,815,468
Unallocated income			31,304	24,110	55,414
Unallocated expenses			(92,103)	—	(92,103)
Gain on fair value change of investments at FVTPL			7,589	—	7,589
Loss on fair value change of held for trading investments (note 9B)			(1,873)	—	(1,873)
Impairment losses under expected credit loss model			(103,506)	—	(103,506)
Share of profits of joint ventures			20,018	—	20,018
Operating expenses allocation for segment reporting purpose (Note)			(18,951)	18,951	—
Profit (loss) for the year			5,238,621	(537,614)	4,701,007

Note: The operating results of new energy business included allocated corporate expenses.

The accounting policies of the operating segments are the same as the Group's accounting policies described in note 4. Segment profit (loss) represents the profit (loss) of each respective segment excluding unallocated income, unallocated expenses, certain impairment losses under expected credit loss model, net, change in fair value of certain investments at FVTPL, change in fair value of held for trading investments, shares of profits (losses) of interests in certain joint ventures and an associate. This is the measure reported to the CODM for the purpose of resources allocation and performance assessment.

6. REVENUE AND SEGMENT INFORMATION (Continued)

Segment assets and liabilities

The following is an analysis of the Group's assets and liabilities by reportable and operating segments:

	2022 RMB'000	2021 RMB'000
Segment assets		
Solar material business	**81,800,878**	44,607,760
Solar farm business	**1,911,745**	1,903,182
Total segment assets relating to continuing operations	**83,712,623**	46,510,942
Assets relating to discontinued operation	**—**	15,888,176
Investments as at FVTPL	**418,457**	409,462
Equity instruments at FVTOCI	**30,309**	41,683
Held for trading investments	**3,035**	1,473
Interest in an associate	**231,753**	—
Interests in joint ventures	**189,222**	242,768
Unallocated bank balances and cash	**685,554**	632,082
Unallocated corporate assets	**293,515**	371,328
Consolidated assets	**85,564,468**	64,097,914
Segment liabilities		
Solar material business	**39,299,711**	22,123,122
Solar farm business	**668,363**	715,717
Total segment liabilities relating of continuing operations	**39,968,074**	22,838,839
Liabilities relating to discontinued operation	**—**	8,855,862
Unallocated corporate liabilities	**41,483**	101,608
Consolidated liabilities	**40,009,557**	31,796,309

For the purpose of monitoring segment performance and allocating resources between segments:

- All assets are allocated to operating segments, other than assets relating to discontinued operation, unallocated corporate assets, corporate bank balances and cash and other assets (including certain investments at FVTPL, equity instruments at FVTOCI, held for trading investments and certain interests in joint ventures and GNE) of the management companies and investment holding companies;
- All liabilities are allocated to operating segments, other than liabilities relating to discontinued operation and unallocated corporate liabilities of the management companies and investment holding companies; and
- Upon the completion of distribution in specie of shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and interest in GNE accounted for using equity method has been classified as the "unallocated assets" and the perpetual notes classified as financial assets at fair value through other comprehensive income has been included in the segment assets of solar material segment.

6. REVENUE AND SEGMENT INFORMATION (Continued)

Other segment information (included in the segment profit or loss or segment assets or regularly provided to the CODM)

Year ended 31 December 2022

	Continuing operations				Discontinued operation	
	Solar material business RMB'000	Solar farm business RMB'000	Unallocated RMB'000	Sub-total RMB'000	New energy business RMB'000	Total RMB'000
Amount included in the measure of segment profit or loss or segment assets:						
Interests in joint ventures	—	12,161	189,222	201,383	—	201,383
Interests in associates	14,753,265	—	231,753	14,985,018	—	14,985,018
Share of losses of joint ventures	(1,464)	(60,311)	(26,108)	(87,883)	—	(87,883)
Share of profits (losses) of associates	4,145,624	—	(29,076)	4,116,548	112,511	4,229,059
Addition to property, plant and equipment, and right-of-use assets	16,661,077	1,288	—	16,662,365	386,763	17,049,128
Addition to investment properties	339,084	—	—	339,084	—	339,084
Addition to intangible assets	4,756	—	—	4,756	—	4,756
Depreciation of property, plant and equipment	1,619,475	84,289	24,716	1,728,480	211,188	1,939,668
Depreciation of right-of-use assets	163,776	1,433	12,031	177,240	25,566	202,806
Depreciation of investment properties	17,085	—	—	17,085	—	17,085
Amortisation of intangible assets	33,682	—	—	33,682	—	33,682
Finance costs	(208,796)	(30,038)	(673)	(239,507)	(438,196)	(677,703)
Bank and other interest income	96,452	1,069	3,288	100,809	48,510	149,319
Interest arising from contracts containing significant financing components	—	—	—	—	10,596	10,596
Gain (loss) on fair value change of financial instruments	(82,845)	4,372	5,984	(72,489)	—	(72,489)
Loss on disposal of property, plant and equipment	(164,793)	—	—	(164,793)	(13)	(164,806)
Write-down of inventories, net	(126,376)	—	—	(126,376)	—	(126,376)
Reversal of impairment losses (impairment loss) under ECL model net	383,300	—	(147,445)	235,855	(138,867)	96,988
Impairment loss on property, plant and equipment	(804,115)	—	—	(804,115)	(244,655)	(1,048,770)
Gain on disposal of subsidiaries	—	41,248	—	41,248	—	41,248
Loss on disposal of solar power plant projects, net	—	—	—	—	(32,530)	(32,530)
Gain on partial disposal/deemed disposal of an associate and a joint venture	201,537	—	—	201,537	—	201,537
Research and development costs	(1,685,721)	—	—	(1,685,721)	—	(1,685,721)
Income tax expense	(1,860,379)	(19,641)	—	(1,880,020)	(17,340)	(1,897,360)

6. REVENUE AND SEGMENT INFORMATION (Continued)

Other segment information (included in the segment profit or loss or segment assets or regularly provided to the CODM) (Continued)

Year ended 31 December 2021

	Continuing operations					Discontinued operation	
	Solar material business RMB'000	Solar farm business RMB'000	Unallocated RMB'000	Elimination of inter-segment income RMB'000	sub-total RMB'000	New energy business RMB'000	Total RMB'000
Amount included in the measure of segment profit or loss or segment assets:							
Interests in joint ventures	360,108	87,917	242,768	–	690,793	3,151	693,944
Interests in associates	8,254,246	–	–	–	8,254,246	1,350,913	9,605,159
Share of (losses) profits of joint ventures	(120,769)	22,719	20,018	–	(78,032)	16	(78,016)
Share of profits of associates	2,552,175	–	–	–	2,552,175	99,461	2,651,636
Addition to property, plant and equipment, and right-of-use assets	2,962,116	2,841	35,836	–	3,000,793	348,366	3,349,159
Depreciation of property, plant and equipment	(1,124,331)	(83,207)	(158)	–	(1,207,696)	(850,544)	(2,058,240)
Depreciation of right-of-use assets	(172,663)	(1,309)	(15,816)	–	(189,788)	(71,295)	(261,083)
Depreciation of investment properties	(4,655)	–	–	–	(4,655)	–	(4,655)
Amortisation of intangible assets	(33,474)	–	–	–	(33,474)	–	(33,474)
Finance costs	(337,414)	(32,500)	(2,237)	47,418	(324,733)	(1,578,409)	(1,903,142)
Bank and other interest income	61,439	187	47,742	(47,418)	61,950	18,997	80,947
Interest arising from contracts containing significant financing components	–	–	–	–	–	28,750	28,750
Gain (loss) on fair value change of financial instruments	(121,518)	6,281	5,716	–	(109,521)	–	(109,521)
Gain (loss) on disposal of property, plant and equipment	(42,080)	–	–	–	(42,080)	523	(41,557)
Reversal of write-down of inventories, net	14,467	–	–	–	14,467	–	14,467
Impairment losses under ECL model, net of reversal	(174,997)	–	(103,506)	–	(278,503)	(60,515)	(339,018)
Impairment loss on property, plant and equipment	(61,303)	–	–	–	(61,303)	(270,101)	(331,404)
Gain on disposal of a subsidiary	16,134	–	–	–	16,134	–	16,134
Gain on disposal of solar power plant projects, net	–	–	–	–	–	84,669	84,669
Gain on partial disposal/deemed disposal of an associate and a joint venture	398,475	–	–	–	398,475	–	398,475
Research and development costs	(1,040,606)	–	–	–	(1,040,606)	–	(1,040,606)
Income tax expenses	(528,056)	(15,936)	–	–	(543,992)	(47,044)	(591,036)

6. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue

(i) Disaggregation of revenue from contracts with external customers

Year ended 31 December 2022

	Continuing operations			Discontinued operation	
Segments	**Solar material business RMB'000**	**Solar farm business RMB'000**	**Sub-total RMB'000**	**New energy business RMB'000**	**Total RMB'000**
Types of goods or services					
Sales of wafer	14,045,577	—	14,045,577	—	14,045,577
Sales of electricity	—	216,970	216,970	604,712	821,682
Sales of polysilicon	17,661,338	—	17,661,338	—	17,661,338
Processing fees	2,793,280	—	2,793,280	—	2,793,280
Operation and management service and solar related supporting services incomes	—	—	—	214,857	214,857
Others (comprising the sales of ingots)	1,213,320	—	1,213,320	—	1,213,320
Total	35,713,515	216,970	35,930,485	819,569	36,750,054
Geographic markets					
The PRC	35,081,291	177,014	35,258,305	752,290	36,010,595
Others	632,224	39,956	672,180	67,279	739,459
Total	35,713,515	216,970	35,930,485	819,569	36,750,054
Timing of revenue recognition					
A point in time	32,920,235	216,970	33,137,205	604,712	33,741,917
Over time	2,793,280	—	2,793,280	214,857	3,008,137
Total	35,713,515	216,970	35,930,485	819,569	36,750,054

6. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue (Continued)

(i) Disaggregation of revenue from contracts with external customers (Continued)

Year ended 31 December 2021

	Continuing operations			Discontinued operation	
Segments	Solar material business RMB'000	Solar farm business RMB'000	Sub-total RMB'000	New energy business RMB'000	Total RMB'000
Types of goods or services					
Sales of wafer	8,456,880	—	8,456,880	—	8,456,880
Sales of electricity	—	214,947	214,947	2,694,979	2,909,926
Sales of polysilicon	5,964,921	—	5,964,921	—	5,964,921
Processing fees	1,665,103	—	1,665,103	—	1,665,103
Operation and management service and solar related supporting services incomes	—	—	—	134,621	134,621
Others (comprising the sales of ingots)	566,527	—	566,527	—	566,527
Total	16,653,431	214,947	16,868,378	2,829,600	19,697,978
Geographic markets					
The PRC	15,926,000	181,047	16,107,047	2,751,836	18,858,883
Others	727,431	33,900	761,331	77,764	839,095
Total	16,653,431	214,947	16,868,378	2,829,600	19,697,978
Timing of revenue recognition					
A point in time	14,988,328	214,947	15,203,275	2,694,979	17,898,254
Over time	1,665,103	—	1,665,103	134,621	1,799,724
Total	16,653,431	214,947	16,868,378	2,829,600	19,697,978

6. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue (Continued)

(ii) Performance obligations from contracts with customers

Continuing operations

Revenue from the manufactures and sales of polysilicon and wafer are recognised at a point in time upon goods are delivered and titles have passed. The Group generally grants credit period of approximately one month to customers from the invoice date. For those customers with continuous business relationships, the Group generally would enter into supply framework contracts and receive certain percentage of deposits as advance payments from these customers. Advances from customers are recognised as revenue upon orders are fulfilled. Sales agreements typically do not contain product warranties except for return and replacement of defective products within 30 days from delivery.

Processing income are recognised over time and measured based on output method upon sawing and cutting services are rendered to customers. The Group generally grants credit period of approximately one month to customers from the invoice date.

Revenue arising on sales of electricity of solar farm business is recognised at a point in time. Substantially, all of the revenue is derived from electricity sales to local grid companies in the PRC and customer in the USA for the years ended 31 December 2022 and 2021.

Discontinued operation

For sales of electricity and tariff adjustments, substantially all of the revenue is derived from electricity sales to local grid companies in the PRC for the years ended 31 December 2022 and 2021. The GNE Group generally entered into power purchase agreements with local grid companies with a term of one to five years which stipulate the price of electricity per watt hour. Revenue is recognised when control of the electricity has been transferred, being at the point when electricity has been generated and transmitted to the customer and the amount included tariff adjustments of approximately RMB324,089,000 (2021: RMB1,559,732,000) recognised during the current year. Except for trade receivables and contract assets relating to tariff adjustment, the GNE Group generally grants credit period of approximately one month to customers from the date of invoice in accordance with the relevant power purchase agreements between the GNE Group and the respective local grid companies or oversea customers. The GNE Group will complete the remaining performance obligations in accordance with the relevant terms as stipulated in the power purchase agreements and the remaining aggregated transaction price will be equal to the quantity of electricity that can be generated and transmitted to the customers times the stipulated price per watt hour.

The financial resource for the tariff adjustment is the national renewable energy fund that is accumulated through a special levy on the consumption of electricity of end users. The PRC government is responsible to collect and allocate the fund to the respective state-owned grid companies for settlement to the solar power companies. Effective from March 2012, the application, approval and settlement of the tariff adjustment are subject to certain procedures as promulgated by Caijian [2012] No. 102 Notice on the Interim Measures for Administration of Subsidy Funds for Tariff Premium of Renewable Energy (可再生能源電價附加輔助資金管理暫行辦法). Caijian [2013] No. 390 Notice issued in July 2013 further simplified the procedures of settlement of the tariff adjustment.

6. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue (Continued)

(ii) Performance obligations from contracts with customers (Continued)

Discontinued operation (Continued)

In January 2020, the Several Opinions on Promoting the Healthy Development of Non-Hydro Renewable Energy Power Generation (Caijian [2020] No. 4)*《關於促進非水可再生能源發電健康發展的若干意見》(財建[2020]4號) and the Measures for Administration of Subsidy Funds for Tariff Premium of Renewable Energy (Caijian [2020] No. 5)*《財政部國家發展改革委國家能源局關於印發〈可再生能源電價附加資金管理辦法〉的通知》(財建[2020]5號) (the" 2020 Measures") were jointly announced by the Ministry of Finance, National Development and Reform Commission and National Energy Administration. In accordance with the new government policy as stipulated in the 2020 Measures, the PRC government has simplified the application and approval process regarding the registration of tariff adjustments for non-hydro renewable energy power plant projects into the Renewable Energy Tariff Subsidy List (可再生能源發電補助項目清單, the" List"). The state-owned grid companies will regularly announce the list based on the project type, time of grid connection and technical level of the solar power projects. For those on-grid solar power projects which have already started operation but yet to register into the List, these on-grid solar power projects are entitled to enlist into the List once they have met the conditions as stipulated on the Administration of Subsidy Funds for Tariff Premium of Renewable Energy (可再生能源電價附加資金管理辦法) and completed the submission and application in the Platform.

Tariff adjustments are recognised as revenue and due from grid companies in the PRC in accordance with the relevant power purchase agreements.

For those tariff adjustments that are subject to approval for registration in the List by the PRC government at the end of reporting period, the relevant revenue from these tariff adjustments are considered variable considerations, and are recognised only to the extent that it is highly probable that a significant reversal will not occur and are included in contract assets. Management assessed that all of the GNE Group's operating solar power plants have qualified and met all the requirements and conditions as required based on the prevailing nationwide government policies on renewable energy for solar power plants. The contract assets are transferred to trade receivables upon the relevant solar power plants obtained the approval for registration in the List or when the relevant solar power plants is enlisted in the List since the release of the 2020 Measures.

* English name for identification only

6. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue (Continued)

(ii) Performance obligations from contracts with customers (Continued)

Discontinued operation (Continued)

Since certain of the tariff adjustments were yet to obtain approval for registration in the List by the PRC government, the management considered that it contained a significant financing component over the relevant portion of the tariff adjustments until settlement of the trade receivables. For the year ended 31 December 2022, the respective tariff adjustments were adjusted for this financing component based on an effective interest rate ranging from 2.11% to 2.37% (2021: 2.34% to 2.76%) per annum and the adjustments in relation to the revision of the expected timing of tariff collection. As such, the GNE Group's revenue was adjusted by approximately RMB39 million (2021: RMB31 million) and interest income amounting to approximately RMB10 million (2021: RMB29 million) was recognised.

Operation and management service income represents the service income from the provision the solar power plants operation and management services. The GNE Group generally grants credit period of approximately one month to customers from the date of invoice. As at 31 December 2021, the aggregate amount of the transaction price allocated to the remaining performance obligations under the GNE Group's existing contracts was approximately RMB370 million. This amount represented revenue expected to be recognised in the future from operation and management contracts of solar power plant entered into by the customers with the GNE Group. The GNE Group would recognise the expected revenue in future when or as the work was completed, which was expected to occur over the next 12 to 48 months.

The transaction price allocated to the remaining performance obligations (unsatisfied or partially unsatisfied) as at 31 December 2021 and the expected timing of recognising revenue are as follows:

	2021 RMB'000
Within one year	95,157
After one year	275,110
	370,267

Solar related supporting services income represents the income from sales of solar modules with related supporting services. The GNE Group generally requires customers to provide 10% to 20% of the agreed consideration of specified goods or services as upfront deposits and the remainder of the consideration is payable before seven to ten days the solar modules are delivered. The GNE Group would complete the performance obligations in accordance with the relevant terms as stipulated in the contracts.

6. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue (Continued)

(iii) Transaction price allocated to the remaining performance obligation for contracts with customers

For contracts on sales of polysilicon and wafer products, the Group will complete the performance obligations in accordance with the relevant terms as stipulated in the supply contracts.

For contracts on sales of electricity, the Group will complete the remaining performance obligations in accordance with the relevant terms as stipulated in the power purchase agreements and the remaining aggregated transaction price will equal to the quantity of electricity that can be generated and transmitted to the customers times the stipulated price per watt hour.

Geographical information

The Group's revenue from external customers by customer's location and information about its non-current assets by location of the assets are detailed below:

	Revenue from external customers						Non-current assets*	
	Continuing operations RMB'000	**Discontinued operation RMB'000**	**2022 RMB'000**	Continuing operations RMB'000	Discontinued operation RMB'000	2021 RMB'000	**2022 RMB'000**	2021 RMB'000
The PRC	**35,258,306**	**752,290**	**36,010,596**	16,107,047	2,751,836	18,858,883	**43,706,426**	31,665,679
Taiwan	**88,976**	**—**	**88,976**	102,511	—	102,511	**—**	—
Thailand	**—**	**—**	**—**	121,050	—	121,050	**—**	—
Korea	**76,846**	**—**	**76,846**	48,008	—	48,008	**—**	—
India	**105,472**	**—**	**105,472**	301,911	—	301,911	**—**	—
Vietnam	**175,425**	**—**	**175,425**	56,658	—	56,658	**—**	—
The USA	**39,956**	**67,279**	**107,235**	100,009	77,764	177,773	**294,821**	1,412,170
Japan	**—**	**—**	**—**	24,622	—	24,622	**—**	—
South Africa	**—**	**—**	**—**	—	—	—	**12,161**	87,917
Others	**185,504**	**—**	**185,504**	6,562	—	6,562	**295,340**	122,683
	35,930,485	**819,569**	**36,750,054**	16,868,378	2,829,600	19,697,978	**44,308,748**	33,288,449

* Non-current assets excluded deferred tax assets and financial instruments.

6. REVENUE AND SEGMENT INFORMATION (Continued)

Information about major customers

For the year ended 31 December 2022, the revenue from the largest customer in total accounted for 16.6% of the Group's revenue (including the revenue from continuing operations and discontinued operation), which was the only customer contributing over 10% of the total revenue of the Group and was derived from solar material business.

For the year ended 31 December 2021, the revenue from grid companies under common control of State Grid Corporation of China in total accounted for 14.2% of the Group's revenue (including the revenue from continuing operations and discontinued operations), which was the only customer contributing over 10% of the total revenue of the Group and was derived from the new energy business segment.

7. OTHER INCOME

	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations		
Government grants (note 35)	105,292	90,178
Bank and other interest income	100,809	61,950
Sales of scrap materials	708,179	419,182
Management and consultancy fee income	7,799	12,778
Rental income	41,699	47,168
Write-back of other payables	3,257	54,113
Compensation income	694	4,818
Recovery of bad debt written off	5,424	—
Others	2,478	2,087
	975,631	692,274

8. FINANCE COSTS

	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations		
Interest on financial liabilities at amortised cost		
— bank and other borrowings	215,567	292,010
— loans from related companies	4,440	—
— other financial liabilities	15,859	—
Interest on lease liabilities	14,554	38,236
Total borrowing costs	250,420	330,246
Less: interest capitalised	(10,913)	(5,513)
	239,507	324,733

There was no borrowing costs capitalised during the years ended 31 December 2022 and 2021 from the general borrowing pool.

9A. REVERSAL OF IMPAIRMENT LOSSES (IMPAIRMENT LOSSES) UNDER EXPECTED CREDIT LOSS MODEL, NET

	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations		
Impairment losses reversed (recognised), net, in respect of		
— trade receivables – goods and services	301,008	(16,147)
— other receivables	(65,153)	(262,356)
	235,855	(278,503)

Details of impairment assessment are set out in note 44.

9B. OTHER EXPENSES, GAINS AND LOSSES, NET

	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations		
Research and development costs	**1,685,721**	1,040,606
Exchange (gains) losses, net	**(139,971)**	59,443
Loss on fair value change of investments at FVTPL	**81,050**	51,902
(Gain) loss on fair value change of held for trading investments	**(392)**	1,873
Loss on fair value change of derivative financial instruments (note 39)	**3,604**	20,566
(Gain) loss on fair value change of convertible bond payable	**(11,773)**	35,180
Impairment loss on property, plant and equipment (note 16)	**804,115**	61,303
Loss on disposal of property, plant and equipment	**164,793**	42,080
Gain on partial disposal/deemed disposal of an associate and a joint venture	**(201,537)**	(398,475)
Gain on disposal of subsidiaries, net (note 42)	**(41,248)**	(16,134)
Gain on disposal of right-of-use assets	**—**	(6,092)
	2,344,362	892,252

10. INCOME TAX EXPENSE

	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations		
PRC Enterprise Income Tax ("EIT")		
Current tax	1,193,390	129,781
Overprovision in prior years	(20,326)	(702)
	1,173,064	129,079
USA Federal and State Income Tax		
Current tax	118	340
Underprovision in prior years	26	6
	144	346
Deferred tax (note 23)	706,812	414,567
	1,880,020	543,992

The PRC EIT for the year represents income tax in the PRC which is calculated at the prevailing tax rate on the taxable income of subsidiaries in the PRC.

Under the Law of the PRC on Enterprise Income Tax (the "EIT Law") and Implementation Regulation of the EIT Law, the tax rate of the PRC subsidiaries is 25% for both years, except for those subsidiaries described below. The overprovision of EIT in prior years arose mainly as a result of completion of tax clearance procedures by certain PRC subsidiaries with the respective tax authorities.

10. INCOME TAX EXPENSE (Continued)

Certain subsidiaries operating in the PRC have been accredited as a "High and New Technology Enterprise" for a term of three years, and have been registered with the local tax authorities for enjoying the reduced 15% EIT rate. Accordingly, the profits derived by these subsidiaries are subject to 15% EIT rate. The qualification as a High and New Technology Enterprise will be subject to annual review by the relevant tax authorities in the PRC.

Federal and State income tax rates in the USA were calculated at 21% and 8.84%, respectively, for both years.

On 21 March 2018, the Hong Kong Legislative Council passed The Inland Revenue (Amendment) (No. 7) Bill 2017 (the "Bill") which introduced the two-tiered profits tax rates regime. The Bill was signed into law on 28 March 2018 and was gazetted on the following day. Under the two-tiered profits tax rates regime, the first HK$2 million of profits of the qualifying group entity will be taxed at 8.25%, and profits above HK$2 million is taxed at 16.5%. The profits of group entities not qualifying for the two-tiered profits tax rates regime will continue to be taxed at a flat rate of 16.5%.

The Directors considered the amount involved upon implementation of the two-tiered profits tax rates regime as insignificant to the consolidated financial statements. Hong Kong Profits Tax is calculated at 16.5% of the estimated assessable profit for both years.

The Group's subsidiaries, associates and joint ventures that are tax residents in the PRC are subject to the PRC dividend withholding tax of 5% or 10% for those non-PRC tax resident immediate holding companies registered in Hong Kong and the British Virgin Islands ("BVI"), respectively, when and if undistributed earnings are declared to be paid as dividends out of profits that arose on or after 1 January 2008. Net deferred tax expenses of approximately RMB610,518,000 in respect of withholding tax on undistributed profits was debited to profit or loss during the current year (2021: RMB149,248,000).

10. INCOME TAX EXPENSE (Continued)

The tax charge for the year can be reconciled to the profit before tax per the consolidated statement of profit or loss and other comprehensive income as follows:

	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations		
Profit before tax from continuing operations	**18,302,602**	5,782,613
Tax at PRC EIT rate of 25% (Note)	**4,575,651**	1,451,410
Tax effect of expenses not deductible for tax purpose	**5,427,927**	203,946
Tax effect of income not taxable for tax purpose	**(4,634,153)**	(250,859)
Tax effect of share of profits of associates	**(1,029,137)**	(638,044)
Tax effect of share of losses of joint ventures	**21,971**	19,508
Tax effect of deductible temporary difference not recognised	**(164,801)**	(98,750)
Tax effect of tax losses not recognised	**423,848**	179,513
Utilisation of tax losses previously not recognised	**(351,371)**	(366,887)
Effect of tax exemption and tax concessions granted to certain subsidiaries in the PRC	**(2,980,133)**	(104,433)
Effect of different tax rates of group companies operating in jurisdictions other than the PRC	**—**	36
Withholding tax on undistributed profits	**610,518**	149,248
Overprovision in prior years, net	**(20,300)**	(696)
Income tax expense for the year	**1,880,020**	543,992

Note: The PRC EIT rate is used as it is the domestic tax in the jurisdiction where the operation of the Group is substantially based.

11. PROFIT FOR THE YEAR

	2022 RMB'000	2021 RMB'000 (Restated)
Continuing operations		
Profit for the year has been arrived at after charging (crediting) the following items:		
Staff costs, including directors' remuneration		
Salaries, wages and other benefits	1,752,682#@	1,010,596#@
Retirement benefits scheme contributions	131,457	91,762
Depreciation of property, plant and equipment (Note 16)	1,778,717	1,208,464
Depreciation of right-of-use assets (Note 17)	177,240	189,788
Depreciation of investment properties (Note 18)	17,085	4,655
Amortisation of intangible assets (Note 19)	33,682	33,474
Total depreciation and amortisation	2,006,724	1,436,381
Less: amounts absorbed in opening and closing inventories, net	(50,237)	(768)
	1,956,487*	1,435,613*
Auditors' remuneration	13,450	11,934

\# Cost of inventories included staff costs of approximately RMB792,960,000 (2021: RMB524,308,000).

* The amounts absorbed in inventories sold approximately RMB1,411,830,000 (2021: RMB969,643,000).

@ Salaries, wages and other benefits included share-based payment expenses of approximately RMB185,068,000 (2021: nil).

12. DIRECTORS' AND CHIEF EXECUTIVE'S EMOLUMENTS

Directors' and Chief Executive's remuneration for the year, disclosed pursuant to the applicable Listing Rules and Hong Kong Companies Ordinance, is as follows:

Year ended 31 December 2022

Name of Director	Directors' fee RMB'000	Salaries and other benefits RMB'000	Performance-related bonuses RMB'000	Retirement benefits scheme contributions RMB'000	Share-based payments-share award RMB'000	Share-based payments-share option RMB'000	Total RMB'000
Executive Directors (Note 1)							
Mr. ZHU Gongshan	–	6,816	50,000	166	4,444	–	61,426
Mr. ZHU Yufeng (Note 3)	–	4,114	20,000	83	2,469	635	27,301
Mr. ZHU Zhanjun (Note 4)	–	4,013	13,200	132	2,327	–	19,672
Mr. LAN Tianshi (Note 5)	–	3,053	32,000	136	5,744	–	40,933
Ms. SUN Wei	–	4,782	12,150	207	2,328	363	19,830
Mr. YEUNG Man Chung, Charles	–	4,774	8,530	124	2,116	182	15,726
Mr. ZHENG Xiongjiu (Note 7)	–	–	269	–	–	–	269
Independent Non-executive Directors (Note 2)							
Dr. HO Raymond Chung Tai	839	–	–	–	353	–	1,192
Mr. YIP Tai Him	624	–	–	–	353	–	977
Dr. SHEN Wenzhong	409	–	–	–	353	–	762
Mr. WONG Man Chung, Francis (Note 8)	105	–	–	–	–	–	105
	1,977	27,552	136,149	848	20,487	1,180	188,193

12. DIRECTORS' AND CHIEF EXECUTIVE'S EMOLUMENTS (Continued)

Year ended 31 December 2021

Name of Director	Directors' fee RMB'000	Salaries and other benefits RMB'000	Performance-related bonuses RMB'000	Retirement benefits scheme contributions RMB'000	Share-based payments RMB'000	Total RMB'000
Executive Directors (Note 1)						
Mr. ZHU Gongshan	—	6,208	8,000	138	—	14,346
Mr. ZHU Yufeng	—	4,833	7,000	69	146	12,048
Mr. ZHU Zhanjun (Note 4)	—	3,967	5,000	69	—	9,036
Ms. SUN Wei	—	4,506	4,800	188	84	9,578
Mr. YEUNG Man Chung, Charles	—	4,544	4,600	113	42	9,299
Mr. JIANG Wenwu (Note 6)	—	217	—	11	—	228
Mr. ZHENG Xiongjiu	—	217	—	11	—	228
Independent Non-executive Directors (Note 2)						
Dr. HO Raymond Chung Tai	1,637	—	—	—	—	1,637
Mr. YIP Tai Him	1,474	—	—	—	—	1,474
Dr. SHEN Wenzhong	1,310	—	—	—	—	1,310
Mr. WONG Man Chung, Francis	1,310	—	—	—	—	1,310
	5,731	24,492	29,400	599	272	60,494

Note 1: The executive directors' emoluments shown above were for their services in connection with the management of the affairs of the Company and the Group.

Note 2: The independent non-executive directors' emoluments shown above were for their services as directors of the Company.

Note 3: On 9 September 2022, Mr. Zhu Yufeng has been appointed as vice chairman of the Company.

Note 4: Mr. Zhu Zhanjun was also the Chief Executive of the Company during the years ended 31 December 2022 and 2021 and his emoluments disclosed above include those for services rendered by him as the Chief Executive. On 21 February 2022, Mr. Zhu Zhanjun has been appointed as vice chairman of the Company and redesignated as a Joint Chief Executive of the Company.

Note 5: On 21 February 2022, Mr. Lan Tianshi has been appointed as an executive director and a Joint Chief Executive of the Company.

Note 6: On 18 June 2021, Mr. Jiang Wenwu has resigned as an executive director of the Company.

Note 7: On 18 August 2022, Mr. Zheng Xiongjiu has resigned as an executive director of the Company.

Note 8: On 31 May 2022, Mr. Wong Man Chung, Francis has resigned as an independent non-executive director of the Company.

12. DIRECTORS' AND CHIEF EXECUTIVE'S EMOLUMENTS (Continued)

Bonuses are discretionary and are based on the performance of the Group or its subsidiaries for the year.

During the year ended 31 December 2022, nine directors (2021: Nil) of the Company were granted award shares, in respect of their services to the Group, under the share award scheme of the Company, further details of which are set out in note 49 to the financial statements. The fair values of such shares awarded, which have been recognised in the consolidated statement of profit or loss over the vesting period, were determined as at the date of grant and the amounts included in the financial statements for the years ended 31 December 2022 are included in the above directors' and chief executive's remuneration disclosures.

There was no arrangement under which a director or the Chief Executive waived or agreed to waive any remuneration during both years.

No other directors waived any emoluments and no incentive paid on joining and no compensation for the loss of office during both years.

13. FIVE HIGHEST PAID EMPLOYEES AND COMPENSATION OF KEY MANAGEMENT PERSONNEL

(a) Five highest paid employees

The five highest paid employees of the Group during the year included five directors (2021: four directors), details of whose remuneration are set out in note 12. The aggregate of the emoluments in respect of the another one individual for the year ended 31 December 2021 are as follows:

	2021 RMB'000
Salaries and other benefits	2,160
Performance related bonuses	10,000
Retirement benefits scheme contributions	99
	12,259

The emolument of the individual with the highest emoluments for the year ended 31 December 2021 is within the following band:

	2021 Number of individual
HK$14,500,001 – HK$15,000,000 (equivalent to approximately RMB11,855,000 to RMB12,265,000)	1

13. FIVE HIGHEST PAID EMPLOYEES AND COMPENSATION OF KEY MANAGEMENT PERSONNEL (Continued)

(b) Compensation of key management personnel

The remuneration of senior management personnel, comprising Directors' and Chief Executive's remuneration during the year was as follows:

	2022 RMB'000	2021 RMB'000
Short-term benefits	**165,678**	59,623
Post-employment benefits	**848**	599
Share-based payments	**21,667**	272
	188,193	60,494

The remuneration of the Directors and other key executives was determined by the remuneration committee having regard to the performance of individuals and market trends.

14. DIVIDEND

	2022 RMB'000	2021 RMB'000
Special interim dividend by way of distribution of shares in GNE (Note 1)	**1,963,482**	—
Proposed final dividend proposed after the end of the reporting period of HK$6.0 cents per ordinary share (Note 2)	**1,423,154**	—

Note 1: On 30 August 2022, a conditional special interim dividend was declared by the Board of the Company through a distribution in specie of 8,639,024,713 ordinary shares of GNE ("DIS shares") (approximately 31% of the issued capital of GNE) on the basis of 318 GNE shares for every 1,000 shares of the Company held by the shareholders of the Company ("Distribution in Specie"). The resolutions in relation to Distribution in Specie were passed by shareholders of the Company at the extraordinary general meeting held on 22 September 2022 and the DIS shares were distributed to the shareholders of the Company during the year ended 31 December 2022. Further details of Distribution in Specie are disclosed note 42(A)(i)(a).

Note 2: The proposed final dividend proposed after the end of the reporting period is subject to the approval of the Company's shareholders at the forthcoming annual general meeting and has not been recognised as a liability at the end of the reporting period. The total final dividend payable is based on the total number of shares (adjusted for the ordinary shares purchased by the Trustee from the market pursuant to the share award scheme) as at the date of approval of these financial statements by the board of directors which includes the cancellation of shares subsequent to the end of the reporting period.

15. EARNINGS (LOSS) PER SHARE

(a) From continuing and discontinued operations

The calculation of the basic and diluted earnings per share attributable to owners of the Company is based on the following data:

	2022 RMB'000	2021 RMB'000
Earnings		
Earnings for the purpose of basic and diluted earnings per share (Profit for the year attributable to owners of the Company)	16,030,307	5,083,952

	2022 '000	2021 '000
Weighted average number of ordinary shares		
Issued ordinary shares at 1 January	27,099,010	21,144,438
Effect of shares held by the Group under the Scheme (as defined in note 49(a)(II))	(377,163)	(322,999)
Effect of treasury shares	(247)	—
Effect of share options exercised	4,744	16,618
Effect of placement of shares	—	3,742,098
Weighted average number of ordinary shares at 31 December	26,726,344	24,580,155

	2022 '000	2021 '000
Number of shares		
Weighted average number of ordinary shares for the purpose of basic earnings per share	26,726,344	24,580,155
Effect of dilutive potential ordinary shares		
— Share options issued by the Company	25,403	37,606
— Award shares granted by the Company	28,991	—
Weighted average number of ordinary shares for the purpose of diluted earnings per share	26,780,738	24,617,761

For the year ended 31 December 2022, the weighted average number of ordinary shares for the purpose of calculation of basic earnings per share had been adjusted for (i) the effect of the 524,498,888 ordinary shares (2021: 322,998,888 ordinary shares) purchased by the Trustee from the market pursuant to the Scheme, (ii) the effect of the 31,625,000 treasury shares (2021: nil) purchased by the Group from market and (iii) the effect of share options exercised.

15. EARNINGS (LOSS) PER SHARE (Continued)

(a) From continuing and discontinued operations (Continued)

Diluted earnings per share for the years ended 31 December 2022 and 2021 is calculated by adjusting the weighted average number of ordinary shares in issue during the period with the weighted average number of ordinary shares deemed to be issued assuming the dilutive impact of certain share options and award shares granted. In addition, certain share options and award shares granted were not assumed to be exercised as they would have an anti-dilutive impact on the earnings per share.

Diluted earnings per share for the year ended 31 December 2022 and 2021 did not assume the exercise of share options granted by GNE since the exercise would result in increase in earnings per share for 2022 and 2021. In addition, the convertible bond issued and put options granted by a subsidiary to non-controlling shareholders of this subsidiary have no dilutive effect on the earnings per share for the years ended 31 December 2022 and 2021.

(b) From continuing operations

The calculation of basic and diluted earnings per share from continuing operations attributable to the owners of the Company is based on the following data:

	2022 **RMB'000**	2021 RMB'000 (Restated)
Earnings figures are calculated as follows:		
Profit for the year attributable to owners of the Company	**16,030,307**	5,083,952
Add: Loss for the year from discontinued operation attributable to owners of the company	**363,361**	157,234
Earnings for the purpose of basic and diluted earnings per share (Profit for the year from continuing operations attributable to owners of the Company)	**16,393,668**	5,241,186

(c) For discontinued operation

Basic loss per share from discontinued operation is RMB1.36 cents per share (2021: RMB0.64 cents per share) based on the loss for the year from the discontinued operation attributable to owners of the Company of RMB363,361,000 (2021: RMB157,234,000) and the denominator set out above for basic earnings per share.

Diluted loss per share from discontinued operation is RMB1.35 cents per share (2021: RMB0.64 cents per share) based on the loss for the year from discontinued operation attributable to owners of the Company of RMB363,361,000 (2021: RMB157,234,000) and the denominators set out above for diluted earnings per share.

16. PROPERTY, PLANT AND EQUIPMENT

	Buildings RMB'000	Plant and machinery RMB'000	Aircraft RMB'000	Office equipment RMB'000	Motor vehicles RMB'000	Construction in progress RMB'000	Total RMB'000
COST							
At 1 January 2021	7,943,040	58,975,652	176,135	858,844	143,880	1,439,723	69,537,274
Additions	60,266	942,765	—	126,014	18,795	2,041,469	3,189,309
Transfer	218,608	824,965	—	57,392	—	(1,100,965)	—
Transfer from right-of-use assets	61,800	350,111	—	—	—	—	411,911
Transfer to assets held for sale (note 30)	(27,691)	(618,425)	—	(683)	(417)	—	(647,216)
Disposal	(471,066)	(5,905,895)	—	(396,182)	(11,829)	(88,642)	(6,873,614)
Disposed on disposal of subsidiaries	(933,202)	(20,275,614)	—	(29,871)	(11,262)	—	(21,249,949)
Effect of foreign currency exchange difference	—	(23,137)	—	(7)	—	(1,284)	(24,428)
At 31 December 2021	6,851,755	34,270,422	176,135	615,507	139,167	2,290,301	44,343,287
Additions	732,248	4,597,129	—	136,406	92,013	10,765,226	16,323,022
Transfer	1,532,744	4,787,022	—	4,916	4,656	(6,329,338)	—
Transfer from right-of-use assets	—	1,557,162	—	—	—	—	1,557,162
Disposal	(277,240)	(4,186,220)	—	(29,369)	(12,493)	—	(4,505,322)
Disposed on disposal of subsidiaries	(24,526)	(1,340,346)	—	(1,698)	(1,145)	—	(1,367,715)
Disposal upon Distribution in Specie	(331,984)	(5,978,204)	—	(125,734)	(16,417)	(668,363)	(7,120,702)
Transfer to investment property	(351,514)	—	—	—	—	—	(351,514)
Effect of foreign currency exchange difference	—	171,674	—	—	—	—	171,674
At 31 December 2022	8,131,483	33,878,639	176,135	600,028	205,781	6,057,826	49,049,892
ACCUMULATED DEPRECIATION AND IMPAIRMENT							
At 1 January 2021	2,761,515	28,536,858	14,337	518,039	107,147	893,130	32,831,026
Depreciation expense	327,266	1,648,253	24,577	50,205	8,707	—	2,059,008
Transfer from right-of-use assets	7,081	333,424	—	—	—	—	340,505
Eliminated on disposals of assets	(436,535)	(5,808,509)	—	(339,895)	(10,754)	—	(6,595,693)
Eliminated on disposals of subsidiaries	(164,103)	(2,467,563)	—	(16,919)	(8,336)	—	(2,656,921)
Transfer to assets held for sale (note 30)	(3,604)	(249,130)	—	(293)	(258)	—	(253,285)
Impairment losses recognised in profit and loss	—	322,637	—	—	—	8,767	331,404
Effect of foreign currency exchange difference	—	(5,291)	—	(2)	—	—	(5,293)
At 31 December 2021	2,491,620	22,310,679	38,914	211,135	96,506	901,897	26,050,751
Depreciation expense	335,635	1,478,296	24,577	129,310	22,087	—	1,989,905
Eliminated on disposals of assets	(192,824)	(4,056,781)	—	(20,944)	(9,563)	—	(4,280,112)
Eliminated on disposals of subsidiaries	(6,573)	(377,489)	—	(1,289)	(1,004)	—	(386,355)
Impairment losses recognised in profit and loss	2,307	1,005,143	—	41,320	—	—	1,048,770
Effect of foreign currency exchange difference	—	46,222	—	—	—	—	46,222
Eliminated on disposal upon Distribution in Specie	(44,929)	(1,902,953)	—	(42,066)	(10,155)	(591,732)	(2,591,835)
Transfer from right-of-use assets	—	654,284	—	—	—	—	654,284
Transfer to investment property	(12,430)	—	—	—	—	—	(12,430)
At 31 December 2022	2,572,806	19,157,401	63,491	317,466	97,871	310,165	22,519,200
CARRYING AMOUNTS							
At 31 December 2022	5,558,677	14,721,238	112,644	282,562	107,910	5,747,661	26,530,692
At 31 December 2021	4,360,135	11,959,743	137,221	404,372	42,661	1,388,404	18,292,536

16. PROPERTY, PLANT AND EQUIPMENT (Continued)

The above items of property, plant and equipment, except for construction in progress, are depreciated on a straight-line basis at the following rates per annum:

Buildings	Over the shorter of lease terms or 2%–8.33%
Plant and machinery	4%–25% or % calculated based on license period
Aircraft	$6^2/_3$%
Office equipment	20%–33%
Motor vehicles	20%–30%

As at 31 December 2021, GNE Group was in the process of obtaining property ownership certificates in respect of property interests held under land use rights in the PRC with a carrying amount of approximately RMB162,650,000. In the opinion of the directors of GNE, the absence of the property ownership certificates to these property interests does not impair their carrying value as GNE Group paid the full purchase consideration for these property interests and the probability of these being evicted on the ground of an absence of property ownership certificates is remote.

Impairment loss on solar material business segment

Year ended 31 December 2022

In face of the new energy changes and market challenges, the Director resolved that the Group will withdraw from the production of rod silicon with high cost in an orderly manner and shift the limited production capacity to granular silicon with high profit margin so as to maximize the Group's profit with limited production capacity. During the year ended 31 December 2022, the Directors resolved that the production of rod silicon will be completely suspended by the end of 2023 (the "Suspension"). The Directors conducted a review of the recoverable amount of the cash generating unit ("CGU") of the rod silicon business unit in solar material segment to which the property, plant and equipment belonged as at 31 December 2022. The recoverable amount of this CGU has been determined based on a value in use calculation with reference to the valuation report of an independent valuer. The management used cash flow projections based on an existing cashflow forecast approved by the Directors covering the period until the Suspension with a pre-tax discount rate of 10.2%. Another key assumption for the value in use calculated was based on the budgeted gross margin, which is determined based on the CGU's past performance and management expectations before the Suspension.

Based on the results of the assessment, the Directors determined that the recoverable amount of the CGU is lower than its carrying amount. The impairment amount has been allocated to each category of each property, plant and equipment such that the carrying amount of each category of asset is not reduced below the highest of its fair value less cost of disposal, its value in use and zero. Based on the value in use calculation and the allocation, impairment loss of approximately RMB804 million has been recognised against the property, plant and equipment within the relevant functions to which the assets relate.

16. PROPERTY, PLANT AND EQUIPMENT (Continued)

Impairment loss on solar material business segment (Continued)

Year ended 31 December 2021

During the year ended 31 December 2021, the solar material business segment recognised an impairment loss of RMB61,303,000 on obsolete items of property, plant and equipment as these items were outdated or not in use by the solar material business segment.

Impairment loss on new energy business segment

Year ended 31 December 2022

The modules of certain photovoltaic solar power plants of GNE in the United States were confirmed as damaged after the inspection in 2022. Accordingly, based on the extent of damage and the impact on production volume the management estimated that an impairment loss of approximately RMB243,550,000 was recognised for the respective property, plant and equipment for the year ended 31 December 2022.

Year ended 31 December 2021

(i) As disclosed in note 30, GNE Group entered into four equity transfer agreements with 國家電投集團新疆能源化工額敏有限責任公司 State Power Investment Group Xinjiang Energy Chemical Emin Co., Ltd.* on 16 November 2021 to dispose of its 100% equity interest in four wholly-owned subsidiaries, and the disposals have not been completed and the relevant assets and liabilities were classified as assets held for sale as at 31 December 2021.

Upon the date of the equity transfer agreements, the management conducted a review of the recoverable amount of each of four subsidiaries, being the CGU to which the assets belonged when it was not possible to estimate the recoverable amount of the assets individually, including allocation of corporate assets when reasonable and consistent basis can be established.

The recoverable amount of the four subsidiaries had been determined at the fair value less costs to sell, which approximated the aggregate consideration stipulated in the four equity transfer agreements. As the recoverable amount was lower than the carrying amount of the net assets of certain four subsidiaries, impairment loss of RMB168,522,000 had been allocated to power generation equipment as the management considered that such assets were the major assets of the CGU and the carrying amounts of other category of property, plant and equipment and right-of-use assets were immaterial.

(ii) On 16 March 2022, GNE Group entered into a series of transfer agreements with 江蘇和盛新能源有限公司 Jiangsu Hesheng New Energy Co., Ltd.* ("Jiangsu Hesheng ") to sell its equity interest in six subsidiaries.

Upon the date of equity transfer agreements, the management conducted a review of the recoverable amount of each of six subsidiaries, being the CGU to which the assets belonged when it was not possible to estimate the recoverable amount of the assets individually, including allocation of corporate assets when reasonable and consistent basis can be established.

16. PROPERTY, PLANT AND EQUIPMENT (Continued)

Impairment loss on new energy business segment (Continued)

Year ended 31 December 2021 (Continued)

(ii) (Continued)

The recoverable amount of the six subsidiaries had been determined at the fair value less costs to sell, which approximated the consideration of each of six subsidiaries stipulated in the equity transfer agreements. As the recoverable amount was lower than the carrying amount of the net assets of certain six subsidiaries, impairment loss of RMB42,140,000 had been allocated to power generation equipment as the management considered that such assets were the major assets of the CGU and the carrying amounts of other category of property, plant and equipment and right-of-use assets were immaterial.

(iii) On 25 January 2022, GNE Group entered into a transfer agreement with 湖南新華水利電力有限公司 Hunan Xinhua Water Conservancy and Electric Power Co., Ltd.* ("Hunan Xinhua") to sell its 100% equity interest in a subsidiary.

As at 31 December 2021, the management conducted a review of the recoverable amount of the subsidiary, being the CGU to which the assets belonged when it was not possible to estimate the recoverable amount of the assets individually, including allocation of corporate assets when reasonable and consistent basis can be established.

The recoverable amount of the subsidiary had been determined at the fair value less costs to sell, which approximated the consideration of the subsidiary stipulated in the equity transfer agreement. As the recoverable amount was lower than the carrying amount of the net assets of the subsidiary, impairment loss of RMB17,846,000 had been allocated to power generation equipment as the management considered that such assets were the major assets of the CGU and the carrying amount of other category of property, plant and equipment and right-of-use assets were immaterial.

(iv) Apart from the impairment assessment of the operating subsidiaries, impairment loss as of approximately RMB8,767,000 and RMB56,936,000 of certain in-progress solar projects in relation to the construction in progress and the power generation equipment had been recognised in profit or loss, respectively, after taking into consideration of the financial resources of GNE Group as well as the equipment costs related to certain in-progress solar power plants, which are still in preliminary stage, the management is of the opinion that those in-progress solar projects will not generate future economic returns to GNE Group.

(v) The impairment loss on new energy business segment above for the year ended 31 December 2021 was reduced by RMB24,110,000 in respect of the elimination of the intra-group interest charged to and capitalised by the respective subsidiaries.

* English name for identification only

17. RIGHT-OF-USE ASSETS

	Leasehold lands RMB'000	Plant and machinery RMB'000	Properties RMB'000	Rooftops RMB'000	Others RMB'000	Total RMB'000
As at 31 December 2022						
Carrying amount	1,440,667	—	86,824	—	43,487	1,570,978
As at 31 December 2021						
Carrying amount	1,234,865	945,302	114,999	—	3,870	2,299,036
For the year ended 31 December 2022						
Depreciation charge	(61,915)	(42,426)	(47,379)	(1,593)	(49,493)	(202,806)
Eliminated on disposals of subsidiaries	(16,206)	—	—	(12,147)	(6)	(28,359)
Transfer to property, plant and equipment	—	(902,878)	—	—	—	(902,878)
Transfer to asset held for sale	(9,897)	—	—	—	(220)	(10,117)
Disposal	(20,900)	—	—	—	—	(20,900)
Disposal upon Distribution in Specie	(199,666)	—	(13,022)	(11,255)	—	(223,943)
For the year ended 31 December 2021						
Depreciation charge	(64,647)	(101,932)	(57,036)	(4,700)	(32,768)	(261,083)
Eliminated on disposals of subsidiaries	(761,923)	—	—	(79,517)	(7,336)	(848,776)
Transfer to property, plant and equipment	(54,719)	(16,687)	—	—	—	(71,406)
Transfer to assets held for sale (note 30)	(10,855)	—	—	—	(12,224)	(23,079)
Transfer to an associate	(7,088)	—	—	—	—	(7,088)
Disposal	(43,065)	—	—	—	—	(43,065)

17. RIGHT-OF-USE ASSETS (Continued)

	2022 RMB'000	2021 RMB'000
Expenses relating to short-term leases	**(14,942)**	(3,388)
Total cash outflow for leases	**(1,042,007)**	(685,861)
Additions to right-of-use assets	**726,106**	159,850
Early termination of a lease	**(59,952)**	(37,692)
Effect of foreign currency exchange differences	**(5,209)**	(1,225)

For both years, the Group leased lands, plant and machinery, aircraft, properties, rooftops and other equipment for its operations. Lease contracts were entered into for terms ranging from 2 to 50 years, and contained extension options as described below. Lease terms were negotiated on an individual basis and contained a wide range of different terms and conditions. In determining the lease term and assessing the length of the non-cancellable period, the Group applied the definition of a contract and determined the period for which each contract was enforceable.

In addition, the Group owns several leasehold lands where its manufacturing facilities, solar farms and office buildings are primarily located. The Group is the registered owner of these property interests. As at 31 December 2021, the GNE Group has obtained the land use right certificates for all leasehold lands except for those with a total carrying amount of approximately RMB8,195,000 in which the GNE Group is in the process of obtaining. Lump sum payments were made upfront to acquire these property interests.

The Group regularly enters into short-term leases for offices, motor vehicles and staff quarters. As at 31 December 2022 and 2021, the portfolio of short-term leases is similar to the portfolio of short-term leases for which the short-term lease expense is as disclosed above.

The Group has extension options in a number of leases for the leasehold lands and properties. These are used to maximise operational flexibility in terms of managing the assets used in the Group's operations. The majority of extension options held are exercisable only by the Group and not by the respective lessors.

17. RIGHT-OF-USE ASSETS (Continued)

The Group assessed at lease commencement date whether it was reasonably certain to exercise the extension options. The Group was reasonably certain to exercise the extension options in leases for the leasehold lands and was not reasonably certain whether to exercise the extension options in leases for the properties. As at 31 December 2022, no lease liabilities with the exercise of extension options (2021: RMB201,369,000) were recognised. The potential exposures to these future lease payments for extension options in which the Group was not reasonably certain to exercise are summarised below:

	Lease liabilities recognised as at 31 December 2022 RMB'000	**Potential future lease payments not included in lease liabilities (undiscounted) 31 December 2022 RMB'000**	Lease liabilities recognised as at 31 December 2021 RMB'000	Potential future lease payments not included in lease liabilities (undiscounted) 31 December 2021 RMB'000
Properties — the PRC	**43,571**	**225,000**	84,611	225,000

In addition, the Group reassesses whether it is reasonably certain to exercise an extension option upon the occurrence of either a significant event or a significant change in circumstances that is within the control of the lessee. During both years, there was no such triggering event.

Details of the lease maturity analysis of lease liabilities are set out in notes 37 and 44b.

Sale and leaseback transactions – seller-lessee

To better manage the Group's capital structure and financing needs, the Group sometimes enters into sale and leaseback arrangements in relation to machinery leases. The transfer of legal title to the solar farms, plant and equipment does not satisfy the requirements of IFRS standards to be accounted for as a sale of the solar farms, plant and equipment. During the years ended 31 December 2022 and 2021, there were no borrowings in respect of such sale and leaseback arrangements. More details are set out in note 36.

18. INVESTMENT PROPERTIES

	RMB'000
COST	
As at 1 January 2021 and 31 December 2021	103,279
Transfer from property, plant and equipment	351,514
As at 31 December 2022	454,793
ACCUMULATED DEPRECIATION	
As at 1 January 2021	42,130
Provided for the year	4,655
As at 31 December 2021	46,785
Provided for the year	17,085
Transfer from property, plant and equipment	12,430
As at 31 December 2022	76,300
CARRYING AMOUNTS	
As at 31 December 2022	378,493
As at 31 December 2021	56,494

The investment properties are depreciated on a straight-line basis over the shorter of the lease terms of the leasehold land or 5% per annum.

The fair value of the Group's investment properties at 31 December 2022 and 2021 was approximately RMB478,830,000 and RMB65,142,000, respectively. The fair value was determined by the Directors with reference to recent market evidence of transaction prices for similar properties in similar locations and conditions and the fair value of the properties is categorised as level 3 measurement.

In estimating the fair value of the properties, the highest and best use of the properties is their current use.

19. INTANGIBLE ASSETS

	Technical know-how RMB'000
COST	
At 1 January 2021	1,068,415
Addition	6
At 31 December 2021	1,068,421
Addition	4,756
As at 31 December 2022	1,073,177
ACCUMULATED AMORTISATION AND IMPAIRMENT	
At 1 January 2021	855,077
Amortisation expense	33,474
At 31 December 2021	888,551
Amortisation expense	33,682
At 31 December 2022	922,233
CARRYING AMOUNTS	
At 31 December 2022	150,944
At 31 December 2021	179,870

Technical know-how are mainly acquired by solar material business from third parties in relation to technical know-how of hydrochlorination production techniques and hydrochlorination recycling system, trichlorosilane fluidised bed reactor technics, Continuous Czochralski monosilicon technics, perovskite solar cells technics and technical know-how on production of polysilicon and wafer products.

Technical know-how have definite useful lives and are amortised on a straight-line basis over 10 years.

20. INTERESTS IN ASSOCIATES

	2022 RMB'000	2021 RMB'000
Cost of investments in associates	**6,015,598**	6,447,509
Share of post-acquisition profits and OCI, net of dividends received	**6,868,953**	3,157,650
Perpetual notes classified as financial assets at fair value through other comprehensive income	**2,100,467**	—
	14,985,018	9,605,159

Details of the Group's major associates at the end of the reporting period are as follows:

Name of company	Country of incorporation/ operation	Proportion of ownership interest						Principal activities
		2022			2021			
		Company's effective interest	held by the Company	held by a subsidiary	Company's effective interest	held by the Company	held by a subsidiary	
GNE (Note a)	Bermuda/ Hong Kong	**7.44%**	**—**	**7.44%**	N/A	N/A	N/A	New energy business
新疆協鑫新能源材料科技有限公司 Xinjiang GCL New Energy Materials Technology Co., Limited* ("Xinjiang GCL") (Note b)	PRC	**38.5%**	**—**	**38.50%**	38.50%	—	38.50%	Production and sale of polysilicon
徐州中平協鑫產業升級股權投資基金(有限合夥) Xuzhou Zhongping GCL Industrial Upgrading Equity Investment Fund LLP* ("Zhongping GCL") (Note c)	PRC	**40.27%**	**—**	**40.27%**	40.27%	—	40.27%	Investment and asset management
內蒙古中環晶體材料有限公司 Inner Mongolia Zhonghuan-GCL Solar Material Co., Ltd.* ("Mongolia Zhonghuan-GCL") (Note d)	PRC	**6.42%**	**—**	**6.42%**	12.19%	—	12.19%	Production of silicon rods
樂山市仲平多晶硅光電信息產業基金合夥企業(有限合夥) Leshan Zhongping Polysilicon Photovoltaic Information Industry Investment Fund Partnership (Limited Partnership)* ("Leshan Fund") (Note e)	PRC	**14.78%**	**—**	**14.78%**	23.09%	—	23.09%	Investment and asset management

20. INTERESTS IN ASSOCIATES (Continued)

Name of company	Country of incorporation/ operation	Proportion of ownership interest						Principal activities
		2022			2021			
		Company's effective interest	held by the Company	held by a subsidiary	Company's effective interest	held by the Company	held by a subsidiary	
樂山市中平能鑫企業管理諮詢合夥企業(有限合夥) Leshan Zhongping Nengxin Enterprise Management Consultancy Partnership (Limited Partnership)* ("Zhongping Nengxin") (Note f)	PRC	66.65%	—	66.65%	66.65%	—	66.65%	Investment and asset management
江蘇鑫華半導體材料科技有限公司 Jiangsu Xinhua Semiconductor Material Technology Co., Ltd* ("Jiangsu Xinhua") (Note g)	PRC	28.05%	—	28.05%	N/A	N/A	N/A	Production and trading of semiconductor polysilicon
喀什博思光伏科技有限公司 Kashgar Solbright Technology Co., Ltd.* ("Kashgar Solbright") (Note h,r)	PRC	N/A	N/A	N/A	9.85%	—	20.00%	Sale of solar products
華容縣協鑫光伏電力有限公司 Huarong County GCL Solar Power Co. Ltd.* ("Huarong") (Note h,r)	PRC	N/A	N/A	N/A	9.85%	—	20.00%	Operation of solar power plants in the PRC
北京華橋新能源諮詢有限公司 Beijing Hua Qiao New Energy Limited* ("Huaqiao") (Note h,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Provision of consultancy services on solar power plant

20. INTERESTS IN ASSOCIATES (Continued)

Name of company	Country of incorporation/ operation	Proportion of ownership interest						Principal activities
		2022			2021			
		Company's effective interest	held by the Company	held by a subsidiary	Company's effective interest	held by the Company	held by a subsidiary	
林州市新創太陽能有限公司 Linzhou City Xinchuang Solar Company Limited* ("Linzhou Xinchuang")* (Note i,r)	PRC	N/A	N/A	N/A	9.85%	—	20.00%	Operation of solar power plants in the PRC
汝州協鑫光伏電力有限公司 Ruzhou GCL Photovoltaic Power Co., Ltd.* ("Ruzhou") (Note j,r)	PRC	N/A	N/A	N/A	22.16%	—	45.00%	Operation of solar power plants in the PRC
新安縣協鑫光伏電力有限公司 Xinan County GCL Solar Power Co., Ltd.* ("Xinan") (Note j,r)	PRC	N/A	N/A	N/A	22.16%	—	45.00%	Operation of solar power plants in the PRC
江陵縣協鑫光伏電力有限公司 Jiangling County GCL Solar Power Co., Ltd.* ("Jiangling") (Note j,r)	PRC	N/A	N/A	N/A	22.16%	—	45.00%	Operation of solar power plants in the PRC
山西協鑫新能源科技有限公司 Shanxi GCL New Energy Technologies Co., Ltd.* ("Shanxi GNE") (Note k,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Operation of solar power plants in the PRC
汾西縣協鑫光伏電力有限公司 Fenxi County GCL Photovoltaic Co., Ltd.* ("Fenxi GCL") (Note k,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Operation of solar power plants in the PRC
芮城縣協鑫光伏電力有限公司 Ruicheng County GCL Photovoltaic Co., Ltd.* ("Ruicheng GCL") (Note k,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Operation of solar power plants in the PRC
盂縣晉陽新能源發電有限公司 Yu County Jinyang New Energy Power Generation Co., Ltd.* ("Yu County Jinyang") (Note k,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Operation of solar power plants in the PRC

20. INTERESTS IN ASSOCIATES (Continued)

Name of company	Country of incorporation/ operation	Proportion of ownership interest						Principal activities
		2022			2021			
		Company's effective interest	held by the Company	held by a subsidiary	Company's effective interest	held by the Company	held by a subsidiary	
盂縣協鑫光伏電力有限公司 Yu County GCL Photovoltaic Co., Ltd.* ("Yu County GCL") (Note k,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Operation of solar power plants in the PRC
邯能廣平縣光伏電力開發有限公司 Hanneng Guangping County Photovoltaic Development Co., Ltd.* ("Hanneng Guangping") (Note k,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Operation of solar power plants in the PRC
河北協鑫新能源有限公司 Hebei GCL New Energy Co., Ltd.* ("Hebei GNE") (Note k,r)	PRC	N/A	N/A	N/A	14.77%	—	30.00%	Operation of solar power plants in the PRC
宿州協鑫光伏電力有限公司 Suzhou GCL Solar Power Co., Ltd.* ("Suzhou GCL Solar Power") (Note l,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
淮北鑫能光伏電力有限公司 Huaibei Xinneng Solar Power Co., Ltd.* ("Huaibei Xinneng") (Note l,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
合肥建南電力有限公司 Hefei Jiannan Power Company Ltd.* ("Hefei Jiannan") (Note l,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
合肥久陽新能源有限公司 Hefei Jiuyang GCL New Energy Company Ltd.* ("Hefei Jiuyang") (Note l,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
金湖正輝太陽能電力有限公司 Jinhu Zhenghui Photovoltaic Co., Ltd.* ("Jinhu") (Note m,r)	PRC	N/A	N/A	N/A	7.63%	—	15.50%	Operation of solar power plants in the PRC
欽州鑫奧光伏電力有限公司 Qinzhou Xinao Photovoltaic Power Company Limited* ("Xinao") (Note n,r)	PRC	N/A	N/A	N/A	19.67%	—	40.00%	Inactive

20. INTERESTS IN ASSOCIATES (Continued)

Name of company	Country of incorporation/ operation	Proportion of ownership interest						Principal activities
		2022			2021			
		Company's effective interest	held by the Company	held by a subsidiary	Company's effective interest	held by the Company	held by a subsidiary	
阜南協鑫光伏電力有限公司 Funan GCL Photovoltaic Power Co., Ltd.* ("Funan GCL") (Note o,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
合肥鑫仁光伏電力有限公司 Hefei Xinren Solar Power Co., Ltd.* ("Hefei Xinren") (Note o,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
天長市協鑫光伏電力有限公司 Tianchang GCL Solar Energy Limited* ("Tianchang GCL") (Note o,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
碭山協鑫光伏電力有限公司 Dangshan GCL Solar Power Co., Ltd.* ("Dangshan GCL") (Note o,r)	PRC	N/A	N/A	N/A	4.92%	—	10.00%	Operation of solar power plants in the PRC
橫山晶合太陽能發電有限公司 Hengshan Jinghe Solar Energy Co., Ltd.* ("Hengshan Jinghe") (Note p,r)	PRC	N/A	N/A	N/A	9.85%	—	20.00%	Operation of solar power plants in the PRC
安福協鑫新能源有限公司 Anfu GCL New Energy Co., Ltd.* ("Anfu GCL") (Note q,r)	PRC	N/A	N/A	N/A	24.13%	—	49.00%	Operation of solar power plants in the PRC

* English name for identification only

Notes:

(a) As set out in note 14 to the financial statements, a special interim dividend by way of distribution of shares of GNE was declared by the board of directors of the Company. Upon the completion of Distribution in Specie (see note 14), the Group's effective interest in GNE were changed from 44.44% to 7.44%. The Directors consider the Group can exercise significant influence over GNE and GNE therefore becomes an associate of the Group after Distribution in Specie due to the following reasons:

(i) Upon the completion of Distribution in Specie, the Group became the third largest shareholder of GNE, and the first and the second largest shareholders of GNE are the Company's controlling shareholder and its subsidiary, respectively;

(ii) The remaining shareholdings of GNE are widely dispersed and all other investors, individually, have substantially smaller ownership interests in GNE;

(iii) Under the Bermuda Companies Act, shareholder of GNE holding not less than 5% of paid-up share capital of GNE, or not less than one hundred shareholders, may submit a written request to move a resolution at the annual general meeting. After the Distribution in Specie, the Group is one of the three shareholders that individually holds not less than 5% of paid-up share capital of GNE.

Further details of Distribution in Specie are disclosed in note 42(A)(i)(a).

As at 31 December 2022, the fair value of the 7.44% equity interest in GNE determined by the quoted market price is RMB99,339,000.

20. INTERESTS IN ASSOCIATES (Continued)

Notes: (Continued)

(b) In 2019, the Group entered into an agreement with Zhongping GCL (see note (c) below), an associate of the Group, to dispose of 31.5% out of its 70% equity interest in Xinjiang GCL for a consideration of approximately RMB2,490,850,000. Resolution for the disposal was duly passed by the shareholders of the Company at an extraordinary general meeting on 9 September 2019.

The Group still retained significant influence over Xinjiang GCL upon completion of the disposal. Following the completion of such disposal, the Group's equity interest in Xinjiang GCL was 38.5% which is accounted for using the equity method.

(c) In 2019, the Group entered into a partnership agreement as a limited partner with six independent investors to subscribe for a 40.27% equity interest in Zhongping GCL for a consideration of RMB1,350,000,000 which was fully injected.

The investment return attributable to the Group was calculated based on the following terms as set out in the partnership agreement:

1. First round distribution: the investment return to be distributed based on the accumulated paid-up subscription capital of each partner. (the "First Distribution")

2. Second round distribution: after the First Distribution, the remaining to be distributed among the limited partners based on an annual return of 6% of the accumulated paid-up subscription capital. (the "Second Distribution")

3. Third round distribution: after the Second Distribution, the remaining to be distributed to the general partner based on an annual return of 6% of its accumulated paid-up subscription capital. (the "Third Distribution")

4. After the Third Distribution, the residual amount to be distributed was apportioned by a ratio of 20:80 among the general partner and limited partners.

Pursuant to the partnership agreement of Zhongping GCL, two-third of the votes of the investment committee is required to direct its activities. The Group is entitled to two out of eight voting rights in the investment committee. The Directors consider that the Group can exercise significant influence over Zhongping GCL and it is therefore classified as an associate of the Group.

(d) In November 2017, Mongolia Zhonghuan-GCL was established with certain independent third parties in which the Group injected RMB900,000,000 as capital for a 30% equity interest.

In December 2019, one of the existing shareholders and other investors further injected RMB2,500,000,000 into Mongolia Zhonghuan-GCL to increase its registered capital, which resulted in diluting the Group's equity interest in Mongolia Zhonghuan-GCL from 30% to 17.17%.

In March 2020, the Group entered a capital injection agreement with the existing shareholders. It set out that one of the existing shareholders of Mongolia Zhonghuan-GCL further injected RMB480,000,000 in total into Mongolia Zhonghuan-GCL to increase its registered capital, which resulted in diluting the Group's equity interest in Mongolia Zhonghuan-GCL by approximately 1%. It further sets out that the Group, after the completion of the capital injection, was entitled to 30% equity interest of a production line held by Mongolia Zhonghuan-GCL ("the Production Line").

In February 2021, the Group entered into an equity transfer agreement that the Group agreed to sell 3.848% equity interest in Mongolia Zhonghuan-GCL to Leshan Fund (See note (e) below) at a consideration of RMB600 million and agreed to grant a put option to Leshan Fund upon the occurrence of certain specific events. The equity transfer agreement further set out that, the Group's equity interest in the Production Line was reduced from 30% to 22.8%. The relevant gain on disposal resulting from decrease of equity interest was RMB141,449,000. Pursuant to the equity transfer agreement, Leshan Fund has the right to request the Group to repurchase its 3.848% equity interest at a premium if Mongolia Zhonghuan-GCL fails to fulfil certain conditions. As this put option is a derivative financial instrument within the scope of IFRS 9, the Group measured it at fair value as at 31 December 2022 and 2021 (note 39).

Following the completion of the disposal of partial equity interest in Mongolia Zhonghuan-GCL in February 2021, the Group entered into a second equity transfer agreement with Leshan Fund that the Group agreed to sell 5.775% equity interest in Mongolia Zhonghuan-GCL to Leshan Fund at a consideration of RMB900 million in January 2022.

The equity transfer agreement further sets out that, upon the completion of the transaction, the Group's equity interest in Mongolia Zhonghuan-GCL was 6.42% which was equivalent to 12% equity interest of the Production Lines. The relevant gain on disposal resulting from the transaction was RMB168,572,000.

20. INTERESTS IN ASSOCIATES (Continued)

Notes: (Continued)

(d) (Continued)

As at 31 December 2022 and 2021, the Group is given the right to appoint two out of seven directors on the board of Mongolia Zhonghuan-GCL, the Directors considered that the Group can exercise significant influence over Mongolia Zhonghuan-GCL and it is therefore continued to be classified as an associate of the Group.

(e) During 2020, the Group entered into a limited partnership agreement with certain independent third parties and an associate of the Group, Zhongping Nengxin (see note (f) below) for the establishment of an investment fund, Leshan Fund. The establishment of Leshan Fund was completed during 2021 and the Group was entitled to 23.09% equity interest in Leshan Fund. The principal activities of Leshan fund are to invest in silicon production related project in Leshan, Sichuan, and the Group's subsidiary, Leshan New Energy GCL ("樂山協鑫新能源科技有限公司").

During 2022, there were further funds injected to Leshan Fund by the Group and other partners and the Group is entitled to 14.78% equity interest in Leshan Fund after the fund injection.

Pursuant to the limited partnership agreement of Leshan Fund, the Group is given the right to appoint two out of seven directors on the investment committee which directs the investment activities of the Leshan Fund, the Directors considered that the Group can exercise significant influence over Leshan Fund and it is therefore classified as an associate of the Group.

(f) In the beginning of 2021, the Group entered into a limited partnership agreement with certain independent third parties for the establishment of an investment fund, Zhongping Nengxin. The Group was entitled to 66.7% equity interest of Zhongping Nengxin during the year ended 31 December 2021. The principal activities of Zhongping Nengxin are to invest in Leshan Fund and silicon production related projects.

Pursuant to the limited partnership agreement, the investment and operating activities of Zhongping Nengxin are solely controlled by the investment manager appointed under the limited partnership agreement, and the Group was given one-third of the voting right in the partnership meeting of Zhongping Nengxin to amend the partnership agreement. The Directors considered that the Group can exercise significant influence over Zhongping Nengxin and it is therefore classified as an associate of the Group.

(g) In April 2016, the Group entered into a joint venture investment agreement ("Investment Agreement") with an independent investor ("Partner"), pursuant to which the Group invested 50.98% equity interest in Jiangsu Xinhua at a consideration of RMB520,000,000 in the form of property, plant and equipment which approximated the fair values of the relevant assets at the date of transfer.

Pursuant to the Investment Agreement, the Partner has the right to request the Group to repurchase the equity interest in Jiangsu Xinhua held by the Partner at the cost of investment of the Partner plus interest at applicable rate if Jiangsu Xinhua fails to fulfil certain conditions. Further details of the put options are set out in note 39(1).

During the year 2021, the Group disposed 7.5% of its equity interest in Jiangsu Xinhua to certain independent third parties. Following the completion of the disposal, the Group received consideration of RMB50,318,000, the Group's equity interest in Jiangsu Xinhua was 43.48% and relevant gain on disposal recognised in the Group's profit or loss was RMB27,751,000.

Moreover, in 2021, Jiangsu Xinhua entered into a shareholder agreement with another group of independent third parties, pursuant to which the new investors agreed to subscribe for new registered capital of 31.03% equity interest in Jiangsu Xinhua with a consideration of RMB900 million. Following the completion of the transaction, the Group's equity interest in Jiangsu Xinhua was diluted to 29.99% and relevant gain on deemed disposal recognised in the Group's profit or loss was RMB229,275,000.

According to the Investment Agreement, the relevant activities require unanimous consent of the parties sharing control. The Directors consider that the Group can exercise joint control over Jiangsu Xinhua and it was therefore classified as a joint venture of the Group as at 31 December 2021.

20. INTERESTS IN ASSOCIATES (Continued)

Notes: (Continued)

(g) (Continued)

During 2022, certain new independent third parties investors subscribed newly-increased registered capital of Jiangsu Xinhua of RMB102 million, representing 6.45% of equity interest of Jiangsu Xinhua for a consideration of RMB200 million. As a result, the Group's equity interest was diluted to 28.05% and relevant gain on deemed disposal recognised in the Group's profit or loss was RMB32,965,000.

Upon the completion of the transaction, the articles of association of Jiangsu Xinhua was revised. According to the revised articles of association, the relevant activities were no longer required unanimous consent of the parties sharing control and the Group was given the right to appoint two out of nine directors of the board of directors of Jiangsu Xinhua. The Directors considered that the Group can exercise significant influence over Jiangsu Xinhua after the revision of article and association and Jiangsu Xinhua is therefore reclassified as an associate from a joint venture of the Group during the year ended 31 December 2022.

(h) As at 31 December 2021, GNE, a 49.24%-owned subsidiary of the Group, held 20%, 20% and 30% equity interest in Kashgar Solbright, Huarong and Huaqiao, respectively. Accordingly, as at 31 December 2021, the Company indirectly held 9.85%, 9.85% and 14.77% equity interest in Kashgar Solbright, Huarong and Huaqiao, respectively.

(i) On 15 February 2019, GNE Group disposed of 80% equity interest in Linzhou Xinchuang to 中廣核太陽能開發有限公司 CGN Solar Energy Development Co., Ltd.* ("CGN Solar"), an independent third party and retained significant influence over Linzhou Xinchuang upon completion of the disposal. Accordingly, the remaining 20% equity interest in Linzhou Xinchuang was accounted for as an investment in an associate by GNE Group and as at 31 December 2021, the Company indirectly held 9.85% equity interest in Linzhou Xinchuang.

(j) On 28 March 2019, GNE Group announced that it had entered into equity transfer agreements with 五凌電力有限公司 Wuling Power Corporation Ltd.* ("Wuling Power"), a subsidiary of 中國電力國際發展有限公司 China Power International Development Limited*, for the disposal of 55% equity interest in Ruzhou, Jiangling and Xinan. Since GNE Group retained 45% equity interest in Ruzhou, Jiangling and Xinan and had significant influence over these companies, these companies were accounted for as investments in associates by GNE Group and as at 31 December 2021, the Company indirectly held 22.16% equity interest in Ruzhou, Jiangling and Xinan.

(k) On 22 May 2019, GNE Group entered into a series of seven equity transfer agreements with 上海榕耀新能源有限公司 Shanghai Rongyao New Energy Co., Ltd* ("Shanghai Rongyao"), an independent third party, in which GNE Group disposed of 70% of its equity interest in Shanxi GNE, Fenxi GCL, Ruicheng GCL, Yu County Jinyang, Yu County GCL, Hanneng Guangping and Hebei GNE. Since GNE Group retained 30% equity interest in these companies and had significant influence over these companies, these companies were accounted for as investments in associates by GNE Group and as at 31 December 2021, the Company indirectly held 14.77% equity interest in these companies.

(l) On 16 November 2020, as disclosed in note 42(B)(ii)(i)(b), GNE Group announced that it had entered into a series of five equity transfer agreements with 徐州國投環保能源有限公司 Xuzhou State Investment & Environmental Protection Energy Co., Ltd.* ("Xuzhou State Investment"), an independent third party, for the disposal of 90% equity interest in each of Suzhou GCL Solar Power, Huaibei Xinneng, Hefei Jiannan and Hefei Jiuyang and 67% equity interest in 碭山鑫能光伏電力有限公司 Dangshan Xinneng Photovoltaic Power Company Limited* ("Dangshan Xinneng"). As GNE Group had the right to appoint one out of five directors to Suzhou GCL Solar Power, Huaibei Xinneng, Hefei Jiannan and Hefei Jiuyang and therefore GNE Group retained significant influence over Suzhou GCL Solar Power, Huaibei Xinneng, Hefei Jiannan and Hefei Jiuyang upon completion of the disposal. Accordingly, the remaining 10% equity interest in Suzhou GCL Solar Power, Huaibei Xinneng, Hefei Jiannan and Hefei Jiuyang were accounted for as investments in associates by GNE Group and, as at 31 December 2021, the Company indirectly held 4.92% equity interest in these companies.

(m) In July 2020, GNE Group disposed of 75% equity interest in Jinhu, a wholly-owned subsidiary, to 國際新能源科技有限公司 CDB New Energy Technology Co., Ltd.* ("CDB New Energy"), an independent third party. In June 2021, the GNE Group further entered into supplemental agreement with CDB New Energy to disposed of its 9.5% equity interest in Jinhu and retained significant influence over Jinhu upon completion of disposal. Accordingly, the remaining 15.5% equity interest in Jinhu was accounted for as an associate by GNE Group and, as at 31 December 2021, the Company indirectly held 7.63% equity interest in Jinhu.

20. INTERESTS IN ASSOCIATES (Continued)

Notes: (Continued)

(n) On 21 August 2020, GNE Group disposed of 60% equity interest in Xinao, a wholly-owned subsidiary to 國家電投集團貴州金元威寧能源有限公司 State Power Investment Corporation Limited* ("State Power Investment") and 廣西金元南方新能源有限公司 Guangxi Jinyuan South New Energy Limited* ("Guangxi Jinyuan"), which are independent third parties, and GNE Group retained significant influence over Xinao upon completion of the disposal. Accordingly, the remaining 40% equity interest in Xinao was accounted for as investment in an associate by GNE Group and, as at 31 December 2021, the Company indirectly held 19.67% equity interest in Xinao.

(o) On 22 November 2020, GNE Group entered into five equity transfer agreements with Xuzhou State Investment to dispose of its 90% equity interest in each of Dangshan GCL Solar Power Co., Ltd.* ("Dangshan GCL"), Funan GCL Photovoltaic Power Co., Ltd.* ("Funan GCL"), Hefei Xinren Solar Power Co., Ltd.* ("Hefei Xinren") and Tianchang GCL Solar Energy Limited* ("Tianchang GCL") and its 50% equity interest in Taihu Xinneng Solar Power Co., Ltd.* ("Taihu Xinneng"). As the GNE Group had right to appoint one out of five directors of Dangshan GCL, Funan GCL, Hefei Xinren and Tianchang GCL and therefore the GNE Group retained significant influence over Dangshan GCL, Funan GCL, Hefei Xinren and Tianchang GCL upon completion of the disposal. Accordingly, the remaining 10% equity interest in Dangshan GCL, Funan GCL, Hefei Xinren and Tianchang GCL were accounted for as associates by GNE Group and the Company indirectly held 4.92% equity interest in these companies.

(p) On 1 April 2021, as disclosed in note 42(B)(ii)(xii), GNE Group entered into four equity transfer agreements with 三峽資產管理有限公司 Three Gorges Asset Management Co., Ltd. ("Three Gorges") to dispose of its 98.4% equity interest in Jingbian GCL Solar Power Co., Ltd. ("Jingbian GCL"), its 80.3514% equity interest in Hengshan Jinghe Solar Energy Co., Ltd. ("Hengshan Jinghe") and its 100% equity interest in two wholly-owned subsidiaries, namely Yulin Longyuan Solar Energy Limited ("Yulin Longyuan ") and Yulin Yushen Industrial Area Energy Co., Ltd., ("Yulin Yushen"). As the GNE Group had right to appoint one out of five directors of Hengshan Jinghe and therefore the GNE Group retained significant influence over Hengshan Jinghe upon completion of the disposal. Accordingly, the remaining 20% equity interest in Hengshan Jinghe was accounted for as an associate by GNE Group and, as at 31 December 2021, the Company indirectly held 9.85% equity interest in Hengshan Jinghe.

(q) On 24 June 2021, as disclosed in note 42(B)(ii)(vi), GNE Group entered into six equity transfer agreements with 重慶綠欣能源發展有限公司 Chongqing Lvxin Energy Development Co., Ltd.* ("Chongqing Lvxin") to dispose of its 100% equity interest in four wholly-owned subsidiaries namely, Shiyan Yunneng Photovoltaic Development Co., Ltd.* ("Shiyan Yunneng"), Jingshan GCL Photovoltaic Power Co. Ltd.* ("Jingshan GCL"), Jingshan Xinhui Solar Power Ltd.* ("Jingshan Xinhui") and Shanggao County Lifeng GCL New Energy Co., Ltd.* ("Shanggao County Lifeng"), its 70% equity interest in Shicheng GCL Solar Power Co., Ltd.* ("Shicheng GCL") and its 51% equity interest in Anfu GCL New Energy Co., Ltd.* ("Anfu GCL"). As the GNE Group had right to appoint one out of five directors of Anfu GCL and therefore the GNE Group retained significant influence over Anfu GCL upon completion of the disposal. Accordingly, the remaining 49% equity interest in Anfu GCL was accounted for as an associate by GNE Group and, as at 31 December 2022, the Company indirectly held 24.13% equity interest in Anfu GCL.

(r) Upon completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and all associates held by GNE Group are included in the Group's interest in GNE.

* English name for identification only

All of the associates are accounted for using the equity method in these consolidated financial statements.

20. INTERESTS IN ASSOCIATES (Continued)

Summarised financial information of material associates

Summarised financial information in respect of the Group's material associates, GNE, Xinjiang GCL, Mongolia Zhonghuan-GCL and Zhongping GCL, is set out below.

GNE

	2022 RMB'000
Current assets	5,590,111
Non-current assets	6,573,445
Current liabilities	(1,795,802)
Non-current liabilities	(4,389,722)

	From the date of completion of Distribution in Specie to 31 December 2022 RMB'000
Revenue	100,450
Loss for the period	(342,737)
Other comprehensive expense for the period	(12,643)
Total comprehensive expense for the period	(355,380)

20. INTERESTS IN ASSOCIATES (Continued)

Summarised financial information of material associates (Continued)

GNE (Continued)

Reconciliation of the above summarised financial information to the carrying amount of the interest in GNE recognised in the consolidated financial statements is set out below:

	2022 RMB'000
Net assets of GNE	5,978,032
Equity attributable to owners of GNE (excluding the holders of share options)	3,120,875
Proportion of the Group's ownership interest in GNE	7.44%
The Group's share of net assets of GNE	231,753
Perpetual notes classified as financial assets at fair value through other comprehensive income (Note)	2,100,467
Carrying amount of the Group's interest in GNE	2,332,220

Note:

On 18 November 2016, 南京協鑫新能源發展有限公司 Nanjing GCL New Energy Development Co. Ltd* ("Nanjing GCL New Energy"), an indirect wholly-owned subsidiary of GNE, entered into a perpetual notes agreement with certain wholly-owned subsidiaries of the Company (the "Lenders"). Nanjing GCL New Energy issued perpetual notes of RMB800,000,000 and RMB1,000,000,000 in November and December 2016, respectively and key terms are as follows:

* English name for identification only

(a) Interest rate

Interest rate is 7.3% per annum for the first two years, 9% per annum for the third to fourth years and 11% per annum starting from the fifth year.

(b) Maturity date

There is no maturity date.

20. INTERESTS IN ASSOCIATES (Continued)

(c) Repayment terms

The distribution shall be paid on the 21st day of the last month of each quarter (the "Distribution Payment Date"). Nanjing GCL New Energy shall have the right to defer any distribution due and payable indefinitely by notifying the Lenders five working days before the Distribution Payment Date, and there is no compound interest on the deferred distribution payment. If Nanjing GCL New Energy chooses to defer distribution payment, for as long as there is any deferred distribution payment not yet paid in full, Nanjing GCL New Energy is not permitted to declare and pay dividends to its shareholders. The Lenders shall have no right at any time to request repayment of the perpetual notes from Nanjing GCL New Energy, but Nanjing GCL New Energy shall have the right, but not the obligations, to repay the perpetual notes amount by notifying the Lenders in writing five working days before the repayment of the perpetual notes at par value.

(d) Classification of perpetual notes

The perpetual notes are classified as equity instruments in the GNE's consolidated financial statements as GNE does not have a contractual obligation to deliver cash or other financial assets arising from the issue of the perpetual notes. Any distributions made by Nanjing GCL New Energy to the holders are recognised in equity in the consolidated financial statements of GNE. The perpetual notes are classified as financial assets at fair value through other comprehensive income by the Group. Before Distribution in Specie, the perpetual notes were fully eliminated in the consolidated financial statements of the Group. Upon completion of Distribution in Specie of the shares of GNE (note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the perpetual notes are included in the Group's interest in GNE.

Xinjiang GCL

	2022 **RMB'000**	2021 RMB'000
Current assets	**12,025,470**	5,342,629
Non-current assets	**6,388,916**	5,950,378
Current liabilities	**(3,087,165)**	(3,382,074)
Non-current liabilities	**(842,899)**	(1,728,767)

	2022 **RMB'000**	2021 RMB'000
Revenue	**13,523,962**	8,892,844
Profit and total comprehensive income for the year	**8,302,156**	4,496,397

20. INTERESTS IN ASSOCIATES (Continued)

Summarised financial information of material associates (Continued)

Xinjiang GCL (Continued)

Reconciliation of the above summarised financial information to the carrying amount of the interest in Xinjiang GCL recognised in the consolidated financial statements is set out below:

	2022 RMB'000	2021 RMB'000
Net assets of Xinjiang GCL	14,484,322	6,182,166
Proportion of the Group's ownership interest in Xinjiang GCL	38.50%	38.50%
The Group's share of net assets of Xinjiang GCL	5,576,464	2,380,134
Goodwill	2,416,798	2,416,798
Carrying amount of the Group's interest in Xinjiang GCL	7,993,262	4,796,932

Mongolia Zhonghuan-GCL

The followings are the summarised financial information of the Production Line of Mongolia Zhonghuan - GCL shared by the Group pursuant to the relevant equity transfer agreements.

	2022 RMB'000	2021 RMB'000
Current assets	5,509,077	3,892,481
Non-current assets	4,885,431	4,508,783
Current liabilities	(2,223,923)	(1,987,998)
Non-current liabilities	(1,641,568)	(520,126)

	2022 RMB'000	2021 RMB'000
Revenue	18,320,011	13,221,485
Profit and total comprehensive income for the year	635,877	876,740

20. INTERESTS IN ASSOCIATES (Continued)

Summarised financial information of material associates (Continued)

Mongolia Zhonghuan-GCL (Continued)

Reconciliation of the above summarised financial information to the carrying amount of the interest in the Production Line Mongolia Zhonghuan-GCL recognised in the consolidated financial statements is set out below:

	2022 RMB'000	2021 RMB'000
Net assets of the Production Line of Mongolia Zhonghuan-GCL	6,529,017	5,811,158
Proportion of the Group's ownership interest in the Production Line of Mongolia Zhonghuan-GCL	12%	22.80%
The Group's share of net assets of the Production Line of Mongolia Zhonghuan-GCL	783,482	1,325,161
Carrying amount of the Group's interest in Mongolia Zhonghuan-GCL	783,482	1,325,161

Zhongping GCL

	2022 RMB'000	2021 RMB'000
Current assets	636,233	179,246
Non-current assets	7,071,161	4,700,591

	2022 RMB'000	2021 RMB'000
Profit and total comprehensive income for the year	2,827,557	1,534,581

20. INTERESTS IN ASSOCIATES (Continued)

Summarised financial information of material associates (Continued)

Zhongping GCL (Continued)

Reconciliation of the above summarised financial information to the carrying amount of the interest in Zhongping GCL recognised in the consolidated financial statements is set below:

	2022 RMB'000	2021 RMB'000
Net assets of Zhongping GCL	7,707,394	4,879,837
Proportion of the Group's ownership interest in Zhongping GCL	40.27%	40.27%
The Group's share of net assets of Zhongping GCL	3,103,894	1,965,110
Others*	(291,203)	—
Carrying amount of the Group's interest in Zhongping GCL	2,812,691	1,965,110

* Other adjustments represent the adjustments of the Group's share of net assets pursuant to profit sharing terms under the partnership agreement of Zhongping GCL.

Aggregate information of associates that are not individually material

	2022 RMB'000	2021 RMB'000
The Group's share of profits	25,625	92,184
The Group's share of OCI	62,530	22,402
The Group's share of profit and total comprehensive income	88,155	114,586
Carrying amount of the Group's interest in associates that are not individually material	1,063,363	1,517,956

21. INTERESTS IN JOINT VENTURES

Details of the Group's investments in joint ventures are as follows:

	2022 RMB'000	2021 RMB'000
Cost of unlisted investment in joint ventures	324,553	785,012
Share of post-acquisition loss and OCI, net of dividends received	(123,170)	(91,068)
	201,383	693,944

21. INTERESTS IN JOINT VENTURES (Continued)

Details of each of the Group's major joint ventures at the end of the reporting period are as follows:

Name of company	Country of incorporation/ operation	Proportion of ownership interest						Principal activities
		2022			2021			
		Company's effective interest	held by the Company	held by a subsidiary	Company's effective interest	held by the Company	held by a subsidiary	
SA Equity Holdco S.a.r.l ("SA Equity") (Note a)	Luxembourg/ South Africa	51%	—	51%	51%	—	51%	Investment holding of photovoltaic power generation projects in South Africa
江蘇鑫華半導體材料科技有限公司 Jiangsu Xinhua Semiconductor Material Technology Co., Ltd.* ("Jiangsu Xinhua") (Note 20(g))	PRC	N/A	N/A	N/A	29.99%	—	29.99%	Production and trading of semiconductor polysilicon
蘇州協鑫景世豐股權投資管理有限公司 Suzhou GCL Jingshifeng Investment Management Co., Ltd.* ("Jingshifeng") (Note b)	PRC	63%	—	63%	63%	—	63%	Investment and asset management
江蘇疌泉景世豐投資基金 (有限合夥) Jiangsu Jiequan Jingshifeng Investment Fund (Limited Partnership)* ("Jiequan Jingshifeng") (Note c)	PRC	55.32%	—	55.32%	55.32%	—	55.32%	Investment and asset management
MIT GCL Investment Limited	Cayman Islands/ Hong Kong	50%	—	50%	50%	—	50%	Investment holding
GHC Investment Management Limited	Cayman Islands/ Hong Kong	50%	—	50%	50%	—	50%	Investment holding
北京京糧協鑫科技有限公司 Beijing Jing Liang Xie Xin GCL Technology Limited* ("Jingliang") (Note d)	PRC	N/A	N/A	N/A	19.70%	—	40%	Provision of consultancy services on solar power plant

* English name for identification only

21. INTERESTS IN JOINT VENTURES (Continued)

Notes:

(a) At 31 December 2022 and 2021, the Group held a 51% equity interest in SA Equity which is an investment holding company holding a 76% equity interest in each of Solar Reserve GCL Soutdrift PV1 Proprietary Limited and Solar Reserve GCL Humansrus PV1 Proprietary Limited that together indirectly holds a 150MW photovoltaic power plant in South Africa.

Pursuant to the subscription agreement entered into by the Group and the other shareholder, the relevant activities of SA Equity require unanimous consent of the parties sharing control. As a result, SA Equity is accounted for as a joint venture of the Group.

(b) In 2017, the Group entered into an agreement with certain independent third parties pursuant to which the Group invested 53% equity interest and the independent third parties invested 42% and 5% in Jingshifeng at a consideration of RMB5,300,000, RMB4,200,000 and RMB500,000, respectively.

In 2021, the Group entered an equity transfer agreement with a shareholder of Jingshifeng, who agreed to transfer its entire equity interest of 10% to the Group for RMB1,150,000. The Group's equity interest increased from 53% to 63% during the year ended 31 December 2021.

As at 31 December 2022, the Group held 63% equity interest in Jingshifeng.

According to the agreement, two-thirds of the votes are required to direct the relevant activities of Jingshifeng. The Directors consider that the Group can only exercise joint control over Jingshifeng and it is therefore classified as a joint venture of the Group.

(c) In August 2017, the Group entered into a partnership agreement with certain independent investors pursuant to which the Group committed to contribute RMB300,000,000 to the partnership for 50% equity interest and injected funds amounting to RMB90,000,000 as at 31 December 2017.

In November 2020, the Group further injected approximately RMB23,300,000 whereas the other investors injected approximately RMB700,000 into Jiequan Jingshifeng for the increase of its registered capital, resulting in the change in the equity interest in Jiequan Jingshifeng from 50% to 58.80%.

In August 2021, the Group enter into agreements with existing partners to reduce the partnership registered capital to RMB250,000,000.

In November 2021, the Group and the existing partners further injected approximately RMB25,000,000 and RMB21,000,000 respectively into Jiequan Jingshifeng for the increase of its registered capital, resulting in the change in the equity interest in Jiequan Jingshifeng from 58.80% to 55.32%.

As at 31 December 2022 and 2021, the Group held 55.32% equity interest in Jiequan Jingshifeng.

Pursuant to the partnership agreement of Jiequan Jingshifeng, two-thirds of the votes are required to direct the relevant activities. The Directors consider that the Group can only exercise joint control over Jiequan Jingshifeng and the investment is therefore classified as a joint venture of the Group.

(d) At 31 December 2021, GNE, a 49.24% owned subsidiary of the Group, held 40% equity interest in Jingliang. Therefore, as at 31 December 2021, the Company indirectly held 19.7% equity interest in Jingliang.

Upon the completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the interest in Jingliang held by GNE Group are included in the Group's interest in GNE.

* English name for identification only

21. INTERESTS IN JOINT VENTURES (Continued)

All joint ventures are accounted for using equity method in these consolidated financial statements. In the opinion of Directors of the Company all the joint ventures are not individually material for the year ended 31 December 2022 and 2021 and the aggregate information of joint ventures are as follows:

Aggregate information of joint ventures that are not individually material

	2022 RMB'000	2021 RMB'000 (Restated)
The Group's share of profits (losses) and total comprehensive expense for the year		
— continuing operations	**(87,883)**	(78,032)
— discontinued operation	**—**	16

22. INVESTMENTS AT FAIR VALUE THROUGH PROFIT OR LOSS/EQUITY INSTRUMENTS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

	2022 RMB'000	2021 RMB'000
Current assets		
Other financial assets at FVTPL:		
Unlisted investments (Note a)	**253,845**	421,790
Non-current assets		
Other financial assets at FVTPL:		
Unlisted investments (Note b)	**193,829**	203,870
Unlisted equity investments (Note c)	**513,198**	92,540
	707,027	296,410
Equity instruments at FVTOCI:		
Listed equity investments (Note d)	**30,309**	41,683

22. INVESTMENTS AT FAIR VALUE THROUGH PROFIT OR LOSS/EQUITY INSTRUMENTS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME (Continued)

Notes:

(a) The unlisted investments represent the financial products issued by financial institutions and banks in Hong Kong and the PRC. The Directors consider the fair values of the unlisted investments, which are based on the prices provided by the financial institutions and banks, that is the prices they would pay to redeem the financial products at the end of the reporting period, approximated their carrying value.

(b) The Group invested in the form of interests as limited partners in certain private entities, which held a portfolio of unlisted investments. The primary objective of the investments is to earn income and for capital gain. Pursuant to investment agreements, the beneficial interests held by the Group in these unlisted investments are in the form of participating shares or interests which primarily provide the Group with the share of returns from the unlisted investments but not any decision making power nor any voting right to involve in and control the daily operation. The unlisted investments mainly made up of private entities incorporated in the PRC and liquid financial assets (including cash and cash equivalents).

(c) Unlisted equity investments

(i) The amount of RMB513,198,000 (2021: RMB48,826,000) mainly represents the investments in unlisted equity instruments issued by private entities established in the PRC, Hong Kong and the USA.

(ii) During the year ended 31 December 2021, GNE Group disposed of 99.635% equity interest in Jingbian County Shunfeng (as defined in note 42(B)(ii)(xv)(a)) and disposed of 98.4% equity interest in Jingbian GCL, the wholly-owned subsidiaries, and retained the remaining 0.365% and 1.6% equity interest respectively in the companies. GNE Group also disposed of 90% equity interest in Shenmu Jingpu Power Co., Ltd.* ("Shenmu Jingpu"), Shenmu Jingfu Solar Power Co., Ltd* ("Shenmu Jingfu"), Shenmu Ping Xi Power Co., Ltd.*, Shenmu Ping Yuan Power Co., Ltd.,* 神木縣晶登電力有限公司 Shenmu County Jingdeng Power Co., Ltd.* ("Shenmu County Jingdeng") and 西咸新區協鑫光伏電力有限公司 Xixian New District GCL Photovoltaic Power Co., Ltd* ("Xixian New District"). GNE Group was not given the right to appoint any directors, and therefore the directors of GNE considered that GNE Group was not able to exercise significant influence over these companies. Such equity investments amounted to RMB43,714,000 were therefore accounted for as equity instruments at FVTPL as at 31 December 2021.

Upon the completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the unlisted equity investments held by GNE Group are included in the Group's interest in GNE.

(d) As at 31 December 2022, the amount mainly represents the equity interests in Lithium America Corp ("Lithium America"), whose shares are listed on TSX Venture Exchange in Canada, and Lamtex Holdings Limited ("Lamtex"), whose shares were listed on the Stock Exchange and delisted on 22 April 2022.

As at 31 December 2021, the amount mainly represents the equity investments in Lamtex, and Millennial Lithium Corp. ("Millennial"), whose shares were listed on TSX Venture Exchange.

The trading of shares of Lamtex on the Stock Exchange has been suspended since 3 August 2020 and the listing of Lamtax's shares has been cancelled on 22 April 2022. In addition, Lamtax received a winding up petition due to its insolvency position and inability to pay its debt. The Directors consider the fair value of the investment in Lamtax approaches zero as at 31 December 2022 and 2021 based on its latest situation.

These investments are not held for trading; instead, they are held for long-term strategic purpose. The Directors have elected to designate these investments in equity instruments as at FVTOCI as they believe that recognising short-term fluctuations in these investments' fair value in profit or loss would not be consistent with the Group's strategy of holding these investments for long– term purposes and realising their performance potential in the long run.

23. DEFERRED TAXATION

For the purpose of presentation in the consolidated statement of financial position, certain deferred tax assets and liabilities have been offset. The following is the analysis of the deferred tax balances for financial reporting purposes:

	2022 RMB'000	2021 RMB'000
Deferred tax assets	**575,871**	107,985
Deferred tax liabilities	**(1,616,697)**	(411,958)
	(1,040,826)	(303,973)

The following are the deferred tax assets (liabilities) recognised and movements thereon during the year:

	Property, plant and equipment RMB'000	Withholding tax on undistributed profits RMB'000	Unrealised profits on inventories RMB'000	Fair value uplift of interest in an associate RMB'000	Tax losses RMB'000	Others RMB'000	Total RMB'000
At 1 January 2021	622,289	(61,501)	1,312	(357,326)	—	(28,951)	175,823
Credit (charge) to profit or loss							
– continuing operations	(265,854)	(149,248)	4,780	—	—	(4,245)	(414,567)
– discontinued operation	(18,116)	—	—	—	—	767	(17,349)
Disposal of solar power plant projects	(87,486)	—	—	—	—	39,606	(47,880)
At 31 December 2021 and 1 January 2022	250,833	(210,749)	6,092	(357,326)	—	7,177	(303,973)
Credit (charge) to profit or loss							
– continuing operations	(474,140)	(610,518)	20,518	—	354,258	3,070	(706,812)
– discontinued operation	(4,941)	—	—	—	—	162	(4,779)
Disposal upon Distribution in Specie	(25,941)	—	—	—	—	679	(25,262)
At 31 December 2022	(254,189)	(821,267)	26,610	(357,326)	354,258	11,088	(1,040,826)

Under the tax law of the PRC, withholding tax is imposed on dividends declared in respect of profits earned by the PRC subsidiaries from 1 January 2008 onwards.

23. DEFERRED TAXATION (Continued)

As at 31 December 2021, deferred taxation has not been provided for in the consolidated financial statements in respect of temporary differences attributable to accumulated profits of the PRC subsidiaries of GNE Group amounting to approximately RMB149,930,000 as GNE Group is able to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future. During the year ended 31 December 2021, withholding tax of approximately RMB920,000 was charged to profit or loss for the dividends declared and paid by the PRC subsidiaries of GNE Group amounted to RMB18,400,000.

At the end of the reporting period, the Group had unused tax losses of approximately RMB4,515,140,000 (2021: RMB6,167,342,000) available for offset against future profits. Deferred tax asset of approximately RMB354,258,000 (2021: nil) had been recognised due to certain deferred tax liability relating to tax concession for property, plant and equipment has been recognised. The remaining tax loss had not been recognised as deferred tax asset due to the unpredictability of future profit steams. Unrecognised tax losses of approximately RMB3,749,628,000 (2021: RMB4,470,733,000) will expire from 2023 to 2032 (2021: 2022 to 2031) and other losses may be carried forward indefinitely.

At the end of the reporting period, the Group had deductible temporary differences mainly in respect of impairment of certain assets in aggregate of approximately RMB7,723,796,000 (2021: RMB7,302,981,000). A deferred tax asset had been recognised in respect of approximately RMB913,749,000 (2021: RMB424,649,000) of such deductible temporary differences. No deferred tax asset had been recognised in relation to the remaining deductible temporary differences of approximately RMB6,810,047,000 (2021: RMB6,878,332,000) as it is not probable that taxable profit will be available against which the deductible temporary differences can be utilised.

24. INVENTORIES

	2022 **RMB'000**	2021 RMB'000
Raw materials	**1,217,870**	418,284
Work in progress	**182,437**	168,172
Semi-finished goods (Note)	**1,060,872**	282,355
Finished goods	**126,169**	81,030
Solar modules	**—**	734
	2,587,348	950,575

Note: Semi-finished goods mainly represented polysilicon.

During the year ended 31 December 2022, cost of inventories of approximately RMB18,332,243,000 (2021: RMB11,173,410,000) recognised as cost of sales included write-down of inventories, net of approximately RMB126,376,000 (2021: reversal of write-down of inventories, net, of approximately RMB14,467,000) because the cost of certain inventories were higher than their net realisable values.

25. DEPOSITS, PREPAYMENTS AND OTHER NON-CURRENT ASSETS/ TRADE AND OTHER RECEIVABLES

Deposits, prepayments and other non-current assets

	2022 RMB'000	2021 RMB'000
Deposits for acquisitions of property, plant and equipment	**2,591,707**	1,916,768
Consideration receivables	**19,944**	58,929
Refundable value-added tax	**—**	141,625
Others	**—**	62,076
	2,611,651	2,179,398

Trade and other receivables

	2022 RMB'000	2021 RMB'000
Trade and bill receivables (Note a)		
— Bill receivables	**17,853,765**	9,319,903
— Trade receivables	**979,834**	2,288,579
	18,833,599	11,608,482
Other receivables:		
— Refundable value-added tax	**1,463,673**	311,583
— Consideration receivables	**441,525**	1,322,236
— Receivables for modules procurement	**—**	62,800
— Prepayments	**920,380**	686,458
— Amounts due from former subsidiaries (note b)	**42,490**	2,917,863
— Short-term loan to a third party (note c)	**1,617,362**	—
— Others	**789,248**	1,788,638
	24,108,277	18,698,060
Less: allowance for credit losses (Trade)	**(79,509)**	(94,804)
Less: allowance for credit losses (Non-Trade)	**(407,370)**	(1,075,893)
	23,621,398	17,527,363

25. DEPOSITS, PREPAYMENTS AND OTHER NON-CURRENT ASSETS/ TRADE AND OTHER RECEIVABLES (Continued)

Trade and other receivables (Continued)

Notes:

(a) The Group allows a credit period of approximately one month from the invoice date for trade receivables (excluding those arising from sales of electricity) and may further extend it for 3 to 6 months for settlement through bills issued by banks and financial institutions obtained from trade customers.

The following is an aging analysis of trade receivables (excluding sales of electricity and bills held by the Group for future settlement), net of allowance for credit losses, presented based on the invoice date at the end of the reporting period:

	2022 RMB'000	2021 RMB'000
Within 3 months	**478,009**	185,580
3 to 6 months	**5,521**	642
Over 6 months	**17,929**	78,420
	501,459	264,642

For sales of electricity, the Group generally grants credit period of approximately one month to power grid companies in the PRC from the date of invoice in accordance with the relevant electricity sales contracts between the Group and the respective grid companies.

The following is an aging analysis of trade receivables arising from sales of electricity (excluding bills held by the Group for future settlement), net of allowance for credit losses, presented based on the invoice date at the end of the reporting period:

	2022 RMB'000	2021 RMB'000
Unbilled (Note)	**396,464**	1,492,086
Within 3 months	**1,856**	108,200
3 to 6 months	**546**	72,706
Over 6 months	**—**	256,141
	398,866	1,929,133

Note: Amount represents unbilled basic tariff receivables for solar power plants operated by the Group, and tariff adjustment receivables of those solar power plants already registered in the Renewable Energy Tariff Subsidy List. The Directors expect the unbilled tariff adjustments would be generally billed and settled within one year from the end of the reporting period.

25. DEPOSITS, PREPAYMENTS AND OTHER NON-CURRENT ASSETS/ TRADE AND OTHER RECEIVABLES (Continued)

Trade and other receivables (Continued)

Notes: (Continued)

(a) (Continued)

The aging analysis of the unbilled trade receivables, which is based on revenue recognition date, are as follows:

	2022 RMB'000	2021 RMB'000
0–90 days	**56,239**	246,631
91–180 days	**101,280**	127,517
181–365 days	**18,969**	233,434
Over 365 days	**219,976**	884,504
	396,464	1,492,086

As at 31 December 2022, total bills received amounting to approximately RMB17,853,765,000 (2021: RMB9,319,903,000) were held by the Group for future settlement of trade receivables, of which certain bills were further discounted/endorsed by the Group. The Group continued to recognise their full carrying amount at the end of the reporting period and details are disclosed in note 46. All bills received by the Group were with a maturity period of less than one year.

The Directors closely monitor the credit quality of trade and other receivables and considered the trade and other receivables, which are neither past due nor impaired, are of a good credit quality in view of the good historical repayment record.

As at 31 December 2022, included in the Group's trade receivables balance (excluding sales of electricity and bills held by the Group for future settlement) were debtors with aggregate carrying amount of approximately RMB115,348,000 (2021: RMB153,028,000) which were past due as at the reporting date. Out of the past due balances, approximately RMB20,935,000 (2021: RMB78,957,000) had been past due 121 days or more but was not considered as in default as part of such receivables was either supported by letters of credit issued by banks or offset by advances from customers or substantially settled subsequent to the end of the reporting period.

As at 31 December 2022, included in these trade receivables arising from sales of electricity were debtors with aggregate carrying amount of RMB2,402,000 (2021: RMB390,903,000) which was past due as at the end of the reporting date. These trade receivables related to a number of customers representing the local grid companies in the PRC, for whom there was no recent history of default. The Group did not hold any collaterals over these balances.

(b) The amount represents amounts due from former subsidiaries of which the Group disposed of the entire interests during the years ended 31 December 2022 and 2021. The amounts are non-trade in nature, unsecured, non-interest bearing and have not fixed term of repayment.

(c) During the year ended 31 December 2022, the Group, the PRC banks and a government related entity ("the Borrower") entered into entrusted loan agreements pursuant to which the Group agreed to issue short-term loan through the PRC banks to the Borrower for an aggregate amount of RMB1.6 billion. The amounts are non-trade in nature, unsecured, interest bearing of 5.88% per annum, and to be repaid on 31 March 2023 and it was further extended to 30 June 2023.

* English name for identification only

Details of impairment assessment of the trade and other receivables are set out in note 44.

26. CONTRACT ASSETS

	2022 RMB'000	2021 RMB'000
Arising from sales of electricity	—	41,179
Less: Allowance for credit loss	—	(238)
	—	40,941

As at 1 January 2021, contract assets amounted to approximately RMB1,227,979,000 (net of loss allowance of approximately RMB5,398,000).

The contract assets primarily related to the portion of tariff adjustments for electricity sold to grid companies in the PRC in which the relevant on-grid solar power plants are still pending registration to the List at the end of reporting period. Tariff adjustments is recognised as revenue upon the sale of electricity as disclosed in note 6. Pursuant to the 2020 Measures, for those on-grid solar power plants yet to be registered on the List, they are required to meet the relevant requirements and conditions for tariff subsidy as stipulated and to complete the submission and application on the Platform. Local grid companies will observe the principles set out in the 2020 Measures to determine eligibility and regularly announce the on-grid solar farms that are enlisted in the List. The Group considered the settlement terms contained a significant financing component, and had adjusted the respective tariff adjustments for the financing component based on an effective interest rate with reference to state treasury bonds of the PRC, as well as the estimated timing of collection. Accordingly, the amount of consideration is adjusted for the effects of the time value of money taking into consideration the credit characteristics of the relevant counterparties. The revenue of the Group was adjusted by approximately RMB39 million for the year ended 31 December 2022 (2021: RMB31 million) for this financing component and in relation to a revision of the expected timing of receipt of tariff adjustments in the contract assets.

Contract assets are reclassified to trade receivables at the point the respective on-grid solar power plant projects are enlisted on the List. The balances as at 31 December 2021 were classified as non-current as they were expected to be received after twelve months from the reporting date.

Upon completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the contract assets of GNE Group are included in the Groups's interest in GNE.

Details of the impairment assessment are set out in note 44.

27. AMOUNTS DUE FROM RELATED COMPANIES

The related companies included associates, joint ventures, other related parties of the Group and companies controlled by Mr. Zhu Gongshan, the chairman of the Group, and his family members which hold in aggregate approximately 23.62% (2021: 23.51%) of the Company's share capital as at 31 December 2022 and exercise significant influence over the Company.

	2022 RMB'000	2021 RMB'000
Amounts due from related companies		
— Trade related (Note a,c)	33,331	333,273
— Non-trade related (Note b)	6,610	6,977
	39,941	340,250
Amounts due from associates		
— Trade related (Note a,c)	150,509	59,787
— Non-trade related (Note d)	529,715	358,792
	680,224	418,579
Amounts due from joint ventures		
— Trade related (Note a,c)	14	3
— Non-trade related (Note b)	11,357	—
	11,371	3
Amounts due from other related parties		
— Trade related (Note a,c)	48,743	126,687
— Non-trade related (Note e)	20,000	20,000
	68,743	146,687
	800,279	905,519
Less: allowance for credit losses	(11,530)	(305,751)
	788,749	599,768
Analysed for reporting purposes as:		
— Current assets	788,749	575,287
— Non-current assets	—	24,481
	788,749	599,768
— Trade related	221,067	213,999
— Non-trade related	567,682	385,769
	788,749	599,768

27. AMOUNTS DUE FROM RELATED COMPANIES (Continued)

Notes:

(a) The amounts are unsecured, non-interest-bearing and the credit period is normally within 30 days (2021: 30 days).

(b) The amounts are unsecured, non-interest-bearing and with no fixed term of repayment.

The maximum amount outstanding during 2022 is approximately RMB6,977,000 (2021: RMB8,639,000) for non-trade related amounts due from companies in which Mr. Zhu Gongshan and his family have control.

(c) The following is an aging analysis of amounts due from related companies, associates and joint ventures (trade related), net of allowance for credit losses, at the end of the reporting period, presented based on the invoice date which approximated the respective revenue recognition dates:

	2022 RMB'000	2021 RMB'000
Within 3 months	127,935	190,472
3 to 6 months	4,659	5,130
More than 6 months	88,473	18,397
	221,067	213,999

(d) As at 31 December 2022, the amounts were unsecured, non-interest-bearing and have no fixed term of repayment, except for an amount of approximately RMB528,400,000 which was a consideration receivable and will be repayable if the Group has fully settled the agreed capital contribution of the associate.

As at 31 December 2021, the amounts were unsecured, non-interest-bearing and have no fixed term of repayment, except for an amount of approximately RMB24,481,000 as at 31 December 2021 which, in the opinion of the directors of GNE, was expected to be received after twelve months from the end of the reporting period and was classified as non-current assets.

(e) The other related parties represent the non-controlling interest shareholders of subsidiaries of the Group. The amounts are unsecured, non-interest-bearing and with no fixed term of repayment.

The Directors closely monitors the credit quality of amounts due from related companies and consider those accounts, which are neither past due nor impaired, are of a good credit quality in view of the good historical repayment records of such parties.

As at 31 December 2022, RMB34,733,000 (2021: RMB324,341,000) of amounts due from related companies (trade related) were credit-impaired because there were defaults of payments from counterparties. During the year ended 31 December 2022, the Group recognised a reversal of impairment loss of RMB294,221,000 as a result of settlement of debts from related companies (2021: the Group recognised impairment of RMB24,171,000).

Details of impairment assessment of amounts due from related companies are set out in note 44.

28. HELD FOR TRADING INVESTMENTS

	2022	2021
	RMB'000	RMB'000
Listed securities:		
— Equity securities listed in Hong Kong	**3,035**	1,473

29. PLEDGED AND RESTRICTED BANK AND OTHER DEPOSITS AND BANK BALANCES

Bank balances

Bank balances carry interest at floating rates which range from 0.01% to 2% (2021: 0.01% to 2%) per annum or fixed rates which range from 0.25% to 4.92% (2021: 0.3% to 4.14%) per annum.

Pledged bank and other deposits

Pledged bank and other deposits represent deposits pledged to banks and other financial institutions to secure banking facilities granted to the Group. Deposits amounting to approximately RMB87,868,000 (2021: RMB366,240,000) were pledged to secure the Group's short-term borrowings and lease liabilities in the PRC and the USA, which were due within one year and were therefore classified as current assets. The remaining deposits amounting to approximately RMB225,600,000 (2021: RMB432,866,000) were pledged to secure long-term borrowings granted to the Group and lease liabilities which were due after one year, and were therefore classified as non-current assets.

Pledged bank deposits carried fixed interest rates ranging from 0.25% to 4.18% (2021: 0.35% to 2.55%) per annum.

As at 31 December 2022, pledged other deposits of approximately RMB57,500,000 (2021: RMB216,573,000) were non-interest-bearing.

Restricted bank deposits

The deposits carried interest at floating rates from 0.25% to 2.22% (2021: 0.3% to 2.22%) per annum or fixed rates ranging from 0.25% to 3.99% (2021: 0.3% to 3.99%) per annum and will be released upon the settlement or discharge of the relevant letters of credit and guarantee.

Restricted bank deposits amounting to approximately RMB3,455,474,000 (2021: RMB2,398,882,000) were utilized to secure bills and short-term letters of credit for trade and other payables, and were therefore classified as current assets. The remaining deposits amounting to approximately RMB25,606,000 (2021: RMB31,774,000) were utilized to secure lease liabilities and other payables which were due after one year, and were therefore classified as non-current assets.

30. ASSETS CLASSIFIED AS HELD FOR SALE/LIABILITIES ASSOCIATED WITH ASSETS CLASSIFIED AS HELD FOR SALE

Disposal groups classified as held for sale

Year ended 31 December 2021

On 16 November 2021, GNE Group entered into four equity transfer agreements with 國家電投集團新疆能源化工額敏有限責任公司 State Power Investment Group Xinjiang Energy Chemical Emin Co., Ltd.* ("State Power Investment"), an independent third party to dispose of its 100% equity interest in four wholly-owned subsidiaries, namely 海東市源通光伏發電有限公司 Haidong Yuantong Photovoltaic Power Generation Co., Ltd.* ("Haidong Yuantong"), 互助昊陽光伏發電有限公司 Huzhu Haoyangyangfu Power Generation Co., Ltd.* ("Huzhu Haoyangyangfu"), 化隆協合太陽能發電有限公司 Hualong Xiehe Solar Power Co., Ltd.* ("Hualong Xiehe"), 青海百能光伏投資管理有限公司 Qinghai Baineng Photovoltaic Investment Management Co., Ltd.* ("Qinghai Baineng") for consideration in aggregate of RMB22,800,000. The Group and State Power Investment mutually agreed to reduce the consideration from RMB22,800,000 to RMB20,666,000 during the current year. The subsidiaries operate solar power plant projects with in aggregate capacity of 98.08MW in Qinghai, the PRC.

As at 31 December 2021, the disposal of Haidong Yuantong, Huzhu Haoyangyangfu, Hualong Xiehe and Qinghai Baineng have not been completed and presented the relevant assets and liabilities were classified as held for sale as disposal groups held for sale.

* English name for identification only

30. ASSETS CLASSIFIED AS HELD FOR SALE/LIABILITIES ASSOCIATED WITH ASSETS CLASSIFIED AS HELD FOR SALE (Continued)

Disposal groups classified as held for sale (Continued)

Year ended 31 December 2021 (Continued)

As at 31 December 2021, the major classes of assets and liabilities of the disposal group are as follows:

	RMB'000
Property, plant and equipment (note 16)	393,931
Right-of-use assets (note 17)	23,079
Other non-current assets	119,424
Other current assets	81
Trade and other receivables	223,518
Bank balances and cash	23,351
Total assets classified as held for sale	783,384
Other payables	(98,045)
Bank and other borrowings — due within one year	(128,000)
Bank and other borrowings — due after one year	(326,680)
Lease liabilities — current	(843)
Lease liabilities — non-current	(8,769)
Tax payable	(28)
Total liabilities directly associated with assets classified as held for sale	(562,365)
Net asset of solar power plant projects classified as held for sale	221,019
Intragroup balances	(200,353)
Net assets of disposal group	20,666

The carrying amounts of the above other borrowings are repayable:

	RMB'000
Other borrowings — due within one year	124,000

30. ASSETS CLASSIFIED AS HELD FOR SALE/LIABILITIES ASSOCIATED WITH ASSETS CLASSIFIED AS HELD FOR SALE (Continued)

Disposal groups classified as held for sale (Continued)

Year ended 31 December 2021 (Continued)

Lease liabilities payable:

	2021 RMB'000
Within one year	843
Within a period of more than one year but not more than two years	793
Within a period of more than two years but not more than five years	2,111
Within a period of more than five years	5,865
	9,612

The following is an aged analysis of trade receivables presented based on the invoice date at 31 December 2021, which approximated the respective revenue recognition date:

	RMB'000
0–90 days	18,598
91–180 days	16,602
Over 180 days	162,260
	197,460

For the electricity sale business, the Group generally granted credit period of approximately one month to power grid companies in the PRC from the date of invoice in accordance with the relevant electricity sales contract between the Group and the respective local grid companies.

These carrying amounts of the above bank borrowings are repayable:

	RMB'000
Within one year	4,000
More than one year, but not exceeding two years	30,640
More than two years, but not exceeding five years	97,230
More than five years	198,810
	330,680
Less: Bank borrowings — due within one year	(4,000)
Bank borrowings — due after one year	326,680

31. TRADE AND OTHER PAYABLES

	2022 RMB'000	2021 RMB'000
Trade payables (Note a)	11,558,952	8,201,524
Construction payables (Note a)	5,681,954	3,042,857
Payables to vendors of solar power plants	—	32,011
Other payables	483,961	903,259
Convertible bond to a non-controlling shareholder of a subsidiary (Note c)	72,407	84,180
Salaries and bonus payable	748,875	532,808
Dividend payables to non-controlling shareholders of subsidiaries	—	31,721
Other tax payables	424,178	289,815
Interest payables	95,735	236,044
Advance from engineering, procurement and construction ("EPC") contractors (Note b)	—	37,400
Accruals	514,842	461,461
	19,580,904	13,853,080

Notes:

(a) Included in the trade payables and construction payables are (i) RMB3,525,418,000 (2021: RMB2,262,548,000) and RMB252,442,000 (2021: RMB217,394,000), respectively, against which the Group issued bills to the relevant creditors for settlement and (ii) an aggregate amount of approximately RMB8,866,248,000 (2021: RMB6,691,685,000) being bills received endorsed to creditors with recourse. All these bills were with a maturity period of less than one year.

(b) The advance represents the amounts received from EPC contractors for the procurement of modules which were to be used in the construction of GNE Group's solar power plants.

(c) In September 2020, the Group entered into an investment agreement with a non-controlling shareholder, pursuant that (i) Kunshan GCL agreed to allot and the non-controlling shareholder agreed to subscribe for RMB92,000 new registered capital of Kunshan GCL Optoelectronic Material Co., Ltd* 昆山協鑫光電材料有限公司 ("Kunshan GCL") at a consideration of RMB1 million, representing 0.15% of the registered capital of Kunshan GCL; and (ii) the non-controlling shareholder agreed to subscribe a convertible bond with principal amount of RMB49 million to be issued by Kunshan GCL.

Pursuant to the investment agreement in relation to the convertible bond, the non-controlling shareholder was given the right, under certain condition, to request Kunshan GCL to convert the loan to equity interest in Kunshan GCL at the date of conversion by reference to the amount of the accrued interest plus the business valuation at the date of the investment agreement and the business valuation of subsequent new capital injection into Kunshan GCL.

The Group designated the convertible bond to a non-controlling shareholder of a subsidiary of amount approximately RMB72,407,000 (2021: RMB84,180,000) as financial liability at fair value through profit or loss taking reference to valuation report issued by valuer and the gain on fair value change of RMB11,773,000 (2021: loss of RMB35,180,000) was recognised in profit or loss during the year ended 31 December 2022.

* English name for identification only

The credit period for trade payables is within 3 to 6 months (2021: 3 to 6 months).

31. TRADE AND OTHER PAYABLES (Continued)

The following is an aged analysis of trade payables (excluding bills presented by the Group for settlement) presented based on the invoice date at the end of the reporting period:

	2022 RMB'000	2021 RMB'000
Within 3 months	**3,345,033**	2,664,015
3 to 6 months	**4,605,580**	3,226,551
More than 6 months	**82,921**	48,410
	8,033,534	5,938,976

32. AMOUNTS DUE TO RELATED COMPANIES

The related companies included associates, joint ventures, other related parties of the Group and companies controlled by Mr. Zhu Gongshan, the chairman of the Group, and his family members which held in aggregate approximately 23.62% (2021: 23.51%) of the Company's share capital as at 31 December 2022 and exercise significant influence over the Company.

	2022 RMB'000	2021 RMB'000
Amounts due to related companies		
— Trade related (Note a)	**7,686**	6,816
— Non-trade related (Note b)	**33,983**	35,182
	41,669	41,998
Amounts due to associates		
— Trade related (Note a)	**201,022**	215,823
— Non-trade related (Note b)	**3,226,435**	2,339,172
	3,427,457	2,554,995
Amount due to a joint venture		
— Trade related (Note a)	**—**	24,772
Amounts due to other related parties		
— Trade related (Note a)	**11,215**	7,465
— Non-trade related (Note c)	**16,023**	114,789
	27,238	122,254
	3,496,364	2,744,019
Analysed for reporting purposes as:		
— Trade related	**219,923**	254,876
— Non-trade related	**3,276,441**	2,489,143
	3,496,364	2,744,019

32. AMOUNTS DUE TO RELATED COMPANIES (Continued)

Notes:

(a) The amounts are unsecured, non-interest-bearing and the credit period is normally within 30 days (2021: 30 days).

The following is an aging analysis of amounts due to related companies, associates and a joint venture (trade related) at the end of the reporting period, presented based on the invoice date:

	2022 RMB'000	2021 RMB'000
Within 3 months	117,865	247,622
3 to 6 months	32	2,769
More than 6 months	102,026	4,485
	219,923	254,876

(b) The amounts are unsecured, non-interest-bearing and have no fixed terms of repayment.

(c) The other related parties represent the non-controlling interest shareholders of subsidiaries of the Group. The amounts are unsecured, non-interest bearing and have no fixed terms of repayment.

33. LOANS FROM RELATED COMPANIES

	2022 RMB'000	2021 RMB'000
Loans from:		
— companies controlled by Mr. Zhu Gongshan and his family (Note)	—	32,325
	—	32,325
Analysed for reporting purposes as:		
— Current liabilities	—	32,325

Notes:

During the year ended 31 December 2022, the Group entered into a loan agreement with GCL Group Limited* (協鑫集團有限公司) pursuant to which GCL Group Limited agreed to provide a loan amount with principal amount of RMB600 million. The amount is non-trade in nature, unsecured, interest-bearing at 5% per annum. The loan was repaid during the year.

As at 31 December 2021, except for the loan from 協鑫光伏系統有限公司 GCL Solar System Company Limited* which was non-interest-bearing, these loans were unsecured, and carried interest at 8% to 12% per annum.

Upon completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the loans from related companies of GNE Group are included in the Group's interest in GNE.

* English name for identification only

34. CONTRACT LIABILITIES

	2022 RMB'000	2021 RMB'000
Sales of polysilicon and wafer		
Current	**1,113,281**	896,128
Non-current	**136,200**	36,000
	1,249,481	932,128

The Group entered into supply framework contracts with customers with continuous business relationships and received advance payments from these customers. When the Group receives certain percentage of deposits as an advance payment upon signing the supply framework contract, this will give rise to contract liabilities at the start of a contract, until revenue is recognised upon the order is fulfilled.

Contract liabilities are classified as current liabilities and non-current liabilities based on the agreed portion of advance payments to be utilised for the estimated amounts of purchase of goods as stated in the respective supply framework contracts within one year and after one year, respectively.

35. DEFERRED INCOME

	2022 RMB'000	2021 RMB'000 (restated)
Continuing operations		
Amounts credited to profit or loss during the year:		
Incentive subsidies (Note a)	**45,354**	40,451
Subsidies related to property, plant and equipment (Note b)	**53,423**	43,212
Value-added tax refunds related to depreciable assets (Note c)	**6,515**	6,515
	105,292	90,178

	2022 RMB'000	2021 RMB'000
Deferred income related to government grants:		
Subsidies related to property, plant and equipment (Note b)	**103,437**	149,420
Value-added tax refunds related to depreciable assets (Note c)	**11,557**	18,072
Energy income credit ("ITC") (Note d)	**—**	341,046
Total	**114,994**	508,538
Less: current portion	**(29,479)**	(53,355)
Non-current portion	**85,515**	455,183

Notes:

(a) Incentive subsidies were received from the relevant PRC government for improvement of working capital and financial assistance to the operating activities to enhance the competitiveness in the industry. The amount also includes grants for relevant expenses incurred such as those for research and development activities and interest subsidies. The subsidies were granted on a discretionary basis to the Group during the year.

(b) The Group received government subsidies for capital expenditure incurred for the plant and machinery. The amounts are deferred and amortised over the estimated useful lives of the respective assets.

(c) The Group received value-added tax refunds on purchases of domestic manufactured plant and machinery. The amounts are deferred and amortised over the estimated useful lives of the respective plant and machinery.

35. DEFERRED INCOME (Continued)

Notes: (Continued)

(d) Pursuant to the relevant prevailing federal policies in the USA, taxpayers that construct or acquire on or before 31 December 2019 qualified energy property are allowed to claim an ITC at 30% for the taxable year in which such property is placed into service by the taxpayer. The directors of GNE analysed the facts and circumstances of the ITC and determined that it was of the nature of a government grant provided to GNE Group in the form of tax benefits relating to construction or acquisition of qualified energy property.

Against this, GNE Group entered into an inverted lease arrangement in February 2017 for its qualified solar farm projects in the USA ("Qualified Assets") with a third party financial institution, which acted as a tax equity investor, and the arrangement allowed GNE Group to pass its entitled ITC ("ITC Benefit") that constituted the right to offset against future tax payables to the tax equity investor for cash receipts in exchange. During the year ended 31 December 2017, ITC Benefit of GNE Group related to the Qualified Assets amounted to US$34,090,000 (equivalent to approximately RMB222,751,000) and was recognised as a government grant ("Grant") as there was a reasonable assurance that the relevant requirements for the tax benefit had been met. The Grant would be amortised over the useful lives of the Qualified Assets. Pursuant to the arrangement, the ITC Benefit was passed on by GNE Group to the tax equity investor and accordingly, the ITC Benefit was derecognised during the year that the invested lease arrangement was entered into with the tax equity investor.

During the year ended 31 December 2018, GNE Group entered into another financing arrangement for its four qualified solar farm projects in the USA with a third party financial institution, under which GNE Group passed its ITC Benefit to the financial institution that constituted the right to offset against future tax payables to the financial institution for cash receipts in exchange. During the year, ITC Benefit of GNE Group related to the four projects amounted to US$23,603,000 (equivalent to approximately RMB164,386,000) and was recognised as a Grant in discontinued operation as there was a reasonable assurance that the relevant requirements for the tax benefit had been met. The Grant would be amortised over the useful lives of the Qualified Assets. Pursuant to the arrangement, the ITC Benefit was passed on by GNE Group to the financial institution and accordingly, the relevant ITC Benefit was derecognised during year ended 31 December 2019.

Upon the completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the balances of deferred income of GNE Group are included in the Group's interest in GNE.

36. BANK AND OTHER BORROWINGS

Details of the bank and other borrowings are as follows:

	2022 RMB'000	2021 RMB'000
Bank loans	12,954,326	6,113,548
Other loans	271,528	2,469,328
	13,225,854	8,582,876
Representing:		
Secured	8,605,397	7,828,060
Unsecured	4,620,457	754,816
	13,225,854	8,582,876

36. BANK AND OTHER BORROWINGS (Continued)

The carrying amounts of the above borrowings are repayable*:

	Bank loans		Other loans	
	2022	2021	**2022**	2021
	RMB'000	RMB'000	**RMB'000**	RMB'000
The carrying amounts of the above borrowings are repayable*:				
Short-term borrowings	**7,835,485**	3,364,121	**—**	—
Long-term borrowings				
Within one year	**1,478,201**	694,156	**105,674**	751,562
More than one year, but not exceeding two years	**1,298,594**	1,096,460	**126,460**	399,104
More than two years, but not exceeding five years	**2,154,324**	567,568	**39,394**	777,955
More than five years	**187,722**	391,243	**—**	327,582
	5,118,841	2,749,427	**271,528**	2,256,203
	12,954,326	6,113,548	**271,528**	2,256,203
The carrying amounts of borrowings that are repayable on demand due to inability to meet loan covenants (shown under current liabilities)	**—**	—	**—**	213,125
Less: amounts due within one year shown under current liabilities	**(9,313,686)**	(4,058,277)	**(105,672)**	(964,687)
Amounts due after one year	**3,640,640**	2,055,271	**165,856**	1,504,641
Analysed as:				
Fixed-rate borrowings	**8,942,126**	2,479,411	**122,424**	153,124
Variable-rate borrowings	**4,012,200**	3,634,137	**149,104**	2,316,204
	12,954,326	6,113,548	**271,528**	2,469,328

* The amounts due are based on scheduled repayment dates set out in the loan agreements.

36. BANK AND OTHER BORROWINGS (Continued)

Included in the other loans are approximately RMB149 million (2021: RMB5,969 million) representing financing arrangements with financial institutions for leases on assets with lease terms ranging from 1 to 12 years (2021: 1 to 12 years), with legal title of the respective equipment transferred to the financial institutions. The Group continued to operate and manage the relevant equipment during the lease term without any involvement from the financial institutions. The Group is entitled to purchase back the equipment at a minimal consideration upon the maturity of the respective leases, except for one of the financing arrangements with a financial institution that the Group can either exercise the early buyout option granted to the Group to purchase back the relevant equipment at a pre-determined price at the end of the seventh year of the lease term, or to purchase back the equipment from this financial institution at fair value upon the end of the lease period. Despite the arrangement involves the legal form of a lease, it does not constitute a sale and leaseback transaction in accordance with the substance of the arrangement. Effective from 1 January 2019, the Group applies the requirements of IFRS standards to assess whether sale and leaseback transactions constitute a sale as disclosed in note 17.

The ranges of effective interest rates (which are also equal to contracted interest rates) on the Group's borrowings are analysed as follows:

	2022	2021
Fixed-rate borrowings		
RMB borrowings	**1.2% to 6.5%**	1.2% to 8.1%
US$ borrowings	**2.7%**	1.72% to 5%
HK$ borrowings	**—**	9.75%
Variable-rate borrowings		
RMB borrowings	**103% to 170% of Benchmark Rate**	93% to 170% of Benchmark Rate
	LPR -0.75% to +2.53%	LPR +0.15% to 2.48%
US$ borrowings	**—**	London Interbank Offered Rate ("LIBOR") +2.7% to 4.3%
HK$ borrowings	**—**	—

36. BANK AND OTHER BORROWINGS (Continued)

The Group's borrowings are denominated in currencies other than the functional currency of the relevant group entities are set out below:

	2022 RMB'000	2021 RMB'000
Borrowings denominated in HK$	—	178,237
Borrowings denominated in US$	241,191	664,148

Certain borrowings are secured by certain assets of the Group as set out in note 48.

During the year ended 31 December 2022, the Group discounted bills arising from future settlement of trade receivables with recourse of approximately RMB9,055,786,000 (2021: RMB1,361,114,000) to banks for short-term financing. At 31 December 2022, the associated borrowings amounted to approximately RMB7,414,485,000 (2021: RMB651,321,000).

The Group is required to comply with certain restrictive financial and other covenants and undertaking requirements.

During the year ended 31 December 2021, the GNE Group's involvement in certain litigation cases relating to claims by relevant claimants exceeded the limit of litigation amounts stipulated in the financial covenants of certain other borrowings. Accordingly, other borrowings of the Group amounting to RMB89 million were reclassified from non-current liabilities to current liabilities as at 31 December 2021. The management of the GNE Group considered that the claims arising from the litigation would not have material impact to the GNE Group as majority of the claims had been provided and included in payables for purchase of plant and machinery and construction costs as at 31 December 2021.

37. LEASE LIABILITIES

	2022 RMB'000	2021 RMB'000
Lease liabilities payable:		
Within one year	**104,906**	316,819
Within a period of more than one year but not exceeding two years	**24,617**	153,359
Within a period of more than two years but not exceeding five years	**13,301**	78,712
Within a period of more than five years	**8,259**	236,230
	151,083	785,120
Less: amount due for settlement with 12 months shown under current liabilities	**(104,904)**	(316,819)
Amount due for settlement after 12 months shown under non– current liabilities	**46,179**	468,301

The weighted average incremental borrowing rates applied to lease liabilities is approximately 5.0% to 6.0% (2021: 6.00%).

Lease obligations that are denominated in currencies other than the functional currencies of the relevant group entities are set out below:

	2022 RMB'000	2021 RMB'000
Lease obligations denominated in HK$	**24,660**	33,040

38. NOTES PAYABLES

The carrying amounts of the Group's notes payables are as follows:

	2022 RMB'000	2021 RMB'000
Senior notes	—	3,115,367
Less: amount due within one year shown under current liabilities	—	(467,305)
Amount due for settlement after one year shown under non-current liabilities	—	2,648,062

On 23 January 2018, GNE Group issued senior notes of US$500 million (equivalent to approximately RMB3,167 million) ("2018 Senior Notes"), which would bear interest at 7.1% per annum and mature on 30 January 2021. The net proceeds of the notes, after deduction of underwriting discounts and commissions and other expenses, amounted to approximately US$493 million (equivalent to approximately RMB3,119 million).

During the year ended 31 December 2021, the restructuring of the 2018 Senior Notes (the "Restructuring") was implemented and completed under the Bermuda Scheme (i.e. the scheme of arrangement under Part VII of the Bermuda Companies Act 1981). On 16 June 2021, the Restructuring has become effective, i.e., the 2018 Senior Notes was replaced by the New Senior Notes (defined below) was issued. Under the restructuring support agreement 5% of the original principal amount of US$25 million (the "Upfront Consideration") was repaid to the holders of the 2018 Senior Notes. The original principal amount and all accrued and unpaid interest on the senior notes less the Upfront Consideration was settled through issuance of new senior note (the "New Senior Notes").

The principal amount of the New Senior Notes amounted to US$511,638,814, bearing interest at 10% per annum payable as follows:

	2021 US$	2021 RMB'000 equivalent
Within one year		
— Payable on 30 January 2022	76,745,822	467,305
Over one year		
— Payable on 30 January 2023	179,073,585	1,090,378
— Payable on 30 January 2024	255,819,407	1,557,684
	511,638,814	3,115,367

Upon the completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the note payables issued by GNE are included in the Group's interest in GNE.

* English name for identification only

39. DERIVATIVE FINANCIAL INSTRUMENTS AND OTHER FINANCIAL LIABILITIES

	2022 RMB'000	2021 RMB'000
Written put options of interests in associates		
— Jiangsu Xinhua[(1)]	**12,014**	17,247
— Mongolia Zhonghuan GCL[(2)]	**86,326**	77,489
Written put options to non-controlling interests		
— Kunshan GCL[(3)]	**293,952**	18,023
	392,292	112,759

(1) In April 2016, the Group entered into the Investment Agreement with the Partner (as defined in note 20(g)) pursuant to which the Partner is given a right to request the Group to repurchase the equity interest in Jiangsu Xinhua held by the Partner at the cost of investment of the Partner plus interest at applicable rate under the following circumstances:

(a) If Jiangsu Xinhua fails to complete a qualified initial public offering ("IPO") at a mutually-agreed stock exchange within a specified time frame;

(b) If Jiangsu Xinhua meets the listing requirements of the specified stock exchanges but fails to complete a qualified IPO due to external factors such as a change in government policy or other factors out of Jiangsu Xinhua's control;

(c) If Jiangsu Xinhua fails to produce polysilicon to the level of quality and specification stipulated under the Investment Agreement within a specified time frame; or

(d) If there is a significant breach by the Group of the relevant terms of the Investment Agreement or actions brought by the Group resulting in a significant adverse impact to the joint venture and the Group fails to remediate such breach within the period required by the Partner.

In December 2020, the Group entered into a supplementary agreement with the Partner to replace the circumstance (c) by the following circumstance:

(e) If Jiangsu Xinhua fails to meet any of the annual operational or strategic requirements by 2021, 2022 and 2023 as set out in the supplementary agreement.

The Directors have recognised the put option of interest in Jiangsu Xinhua as a derivative financial instrument and initially recognised it at fair value with subsequent changes in fair value recognised in profit or loss. During the year ended 31 December 2022, the Group remeasured the fair value and a gain on fair value change of the derivative financial instrument of approximately RMB5,233,000 (2021: RMB4,753,000) was recognised in profit or loss.

39. DERIVATIVE FINANCIAL INSTRUMENTS AND OTHER FINANCIAL LIABILITIES (Continued)

(2) In February 2021, the Group entered into an equity transfer agreement with an associate, Leshan Fund pursuant to which the Group agreed to sell and Leshan Fund agreed to purchase 3.848% equity interest in 內蒙古中環協鑫光伏材料有限公司 Inner Mongolia Zhonghuan — GCL Solar Material Co., Ltd.* ("Mongolia Zhonghuan GCL") at a consideration of RMB600 million. The Group agreed to grant a put option to Leshan Fund to request the Group to repurchase the equity interest in Mongolia Zhonghuan GCL held by Leshan Fund at the cost of investment of Leshan Fund plus interest at applicable rate under the following circumstances:

- If Mongolia Zhonghuan GCL fails to be involved in merger and acquisition with independent third parties given that Mongolia Zhonghuan GCL has completely executed the given clause under the agreement entered between Leshan Fund and the Group at the equity transfer date.

The Directors have recognised the put option of interest in Mongolia Zhonghuan GCL as derivative financial instrument and initially recognised it at fair value with subsequent changes in fair value recognised in profit or loss. During the year ended 31 December 2022, the Group remeasured the fair value and a loss on fair value change of derivative financial instrument of approximately RMB8,837,000 (2021: RMB77,489,000) was recognised in profit or loss.

(3) In 2020 and 2021, the Group entered into investment agreements ("2020/21 Kunshan Investment Agreements") with certain investors pursuant to which the investors were given the rights to request the Group to repurchase the 20.24% equity interest in Kunshan GCL Optoelectronic Material Co., Ltd.* ("昆山協鑫光電材料有限公司") ("Kunshan GCL"), a subsidiary of the Company, at a premium under certain conditions. On 18 March 2022, the Group entered into a new shareholder agreement ("2022 Kunshan Shareholder Agreement") with Kunshan GCL, a new investor and the then existing non-controlling shareholders of Kunshan GCL, pursuant to which the Group agreed to subscribe for RMB6.6 million new registered capital and the new investor agreed to subscribe for RMB4.4 million new registered capital of Kunshan GCL at a cash consideration of RMB150 million and RMB100 million respectively, representing 8.96% and 5.97% of the enlarged registered capital of Kunshan GCL respectively. As a result of the transactions, the Group's equity interest of Kunshan GCL changed from 50.03% to 51.52%.

* English name for identification purpose only

39. DERIVATIVE FINANCIAL INSTRUMENTS AND OTHER FINANCIAL LIABILITIES (Continued)

Pursuant to the 2022 Kunshan Shareholder agreement, the new investor was given the right to request the Group to repurchase the 5.97% equity interest in Kunshan GCL at a redemption price equal to the sum of (i) investment cost made by the new investor; (ii) 10% required annual rate of return on the investment cost; and (iii) the share of accumulated unpaid dividends of Kunshan GCL during the investment period, under the following circumstances:

a) If Kunshan GCL fails to complete a qualified initial public offering ("IPO") at a mutually agreed stock exchange on or before 31 December 2025;

b) If there is a significant breach by the Group on the relevant terms of the 2022 Kunshan Shareholder Agreement or actions brought by the Group resulting in significant adverse impact to Kunshan GCL and the Group fails to remediate such breach within the period required by the new investor;

c) If Kunshan GCL fails to meet operation target as set out in the previous agreements signed with the shareholders of Kunshan GCL within a specified time frame.

In addition, certain terms in the 2020/21 Kunshan Investment Agreements in relation to the written put options are revised to the same terms of put option granted to the new investor under 2022 Kunshan Shareholder Agreement.

As a result, during the year ended 31 December 2022, the Group recognised the financial liability of approximately RMB278 million in relation to the put options granted to the non-controlling interests of Kunshan GCL with a corresponding entry of the same amount recognised in equity, which was based on the present value of the exercise price required to pay plus 10% interest per annum, by applying a discount rate of 10% and on the assumption that the put option will be redeemable on the date of redemption. This liability is subsequently accrued as finance cost (note 8) up to the redemption amount that is payable at the date at which the option becomes exercisable.

As at 31 December 2022, the Group has recognised the financial liability of approximately RMB293,952,000 in relation to the put options granted to the non-controlling interest of Kunshan GCL.

Details of the inputs and assumptions adopted in the fair value measurement are described in note 45.

40. SHARE CAPITAL

	Number of shares '000	Amount HK$'000
Ordinary shares of HK$0.1 each		
Authorised		
At 1 January 2021	30,000,000	3,000,000
Addition during the year	20,000,000	2,000,000
At 31 December 2021, 1 January 2022 and 31 December 2022	50,000,000	5,000,000
Issued and fully paid		
At 1 January 2021	21,144,438	2,114,444
Exercise of share options (Note a)	17,984	1,798
Issue of shares on placement (Note b)	5,936,588	593,659
At 31 December 2021 and 1 January 2022	27,099,010	2,709,901
Exercise of share options (Note a)	9,488	949
At 31 December 2022	27,108,498	2,710,850

	2022 RMB'000	2021 RMB'000
Shown in the financial statements as	**2,359,838**	2,359,030

Notes:

(a) During the year ended 31 December 2022, share option holders exercised their rights to subscribe for 8,359,849, 604,302 and 523,374 (2021: 5,465,902 and 12,518,339) ordinary shares in the Company at HK$1.16 and HK$1.32 and HK$1.63 (2021: HK$1.63 and HK$1.16) per share, respectively, with the net proceeds of approximately RMB9,668,000 (2021: RMB19,657,000).

(b) On 21 January 2021, a placement of 3,900,000,000 new shares of the Company at a price of HK$1.08 per share with net proceeds of approximately HK$4,148,263,000 (equivalent to approximately RMB3,491,178,000) was completed.

On 22 December 2021, a placement of 2,036,588,000 new shares of the Company at a price of HK$2.49 per share with net proceeds of approximately HK$4,994,179,000 (equivalent to approximately RMB4,084,547,000) was completed.

During the year ended 31 December 2022, 31,625,000 ordinary shares of the Company were repurchased by the Group at an aggregate consideration of approximately RMB57,971,000 which were recognised in equity as treasury shares. Subsequent to 31 December 2022, all of the treasury shares have been cancelled.

All shares issued during the years ended 31 December 2022 and 2021 rank pari passu in all respects with the then existing shares of the Company.

41. ACQUISITION OF ADDITIONAL INTEREST IN SUBSIDIARIES AND CHANGE IN CAPITAL STRUCTURE OF A SUBSIDIARY

(A) Year ended 31 December 2022

Change in capital structure of a subsidiary

On 18 March 2022, the Group entered into 2022 Kunshan Shareholder Agreement with a new investor, the then existing non-controlling shareholders of Kunshan GCL and Kunshan GCL, pursuant to which the Group agreed to subscribe for RMB6.6 million new registered capital and the new investor agreed to subscribe RMB4.4 million new registered capital of Kunshan GCL at a cash consideration of RMB150 million and RMB100 million, respectively, representing 8.96% and 5.97% of the enlarged registered capital. In addition, the new investor was given the right to request the Group to repurchase its 5.97% equity interest in Kunshan GCL at a redemption price under certain circumstances (see note 39(3)). The difference between the consideration received from the new investor and the relevant carrying amount of non-controlling interest is recognised in special reserve in consolidated statement of changes in equity.

After the completion of the change in capital structure of Kunshan GCL, the Group's equity interest in Kunshan GCL increased from 50.03% to 51.52%.

(B) Year ended 31 December 2021

Acquisition of additional interests in subsidiaries

During the year ended 31 December 2021, the GNE Group entered into equity transfer agreements with the non-controlling shareholders to acquire additional equity interest of 7.18% in Suzhou GCL New Energy Investment Limited ("Suzhou GCL New Energy") and 19% in Shicheng GCL Power Co., Ltd* ("Shicheng GCL") at consideration of RMB1,485,533,000 and RMB101,039,000 respectively. The difference between the considerations to acquire additional equity interest in above subsidiaries and the relevant carrying amount of non-controlling interest is recognized in special reserve in consolidated statement of changes in equity.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES

(A) Year ended 31 December 2022

(i) Disposals of subsidiaries and deemed disposals of partial interests in subsidiaries by the Group

(a) Deemed disposal of partial interest in GNE and Distribution in Specie of GNE shares

On 28 July 2022, Elite Time Global Limited, a wholly-owned subsidiary of the Company ("Elite Time"), GNE and the placing agents entered into a placing agreement, pursuant to which 2,275,000,000 new shares of GNE were to be issued and placed to placees with an aggregate value of approximately HK$314 million (equivalent to approximately RMB270 million). The transaction has been completed in August 2022 and the net proceeds of the transaction, after taking into account all related costs, fees, expenses and commission of the transaction, is approximately HK$310 million (approximately RMB267 million). As a result, Elite Time's equity interest in GNE was reduced from 49.24% to 44.44%.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(A) Year ended 31 December 2022 (Continued)

(i) Disposals of subsidiaries and deemed disposals of partial interests in subsidiaries by the Group (Continued)

(a) Deemed disposal of partial interest in GNE and Distribution in Specie of GNE shares (Continued)

As set out in note 14 to the financial statements, a special interim dividend by way of distribution of shares of GNE was declared and distributed during the year ended 31 December 2022. Upon the completion of Distribution in Specie, the Group's effective interest in GNE was changed from 44.44% to 7.44%. The Directors of the Company consider the Group can exercise significant influence over GNE and GNE therefore become an associate of the Group after the Distribution in Specie.

The net assets of GNE at the date of completion of Distribution in Specie were as follows:

	RMB'000
ASSETS	
Property, plant and equipment	4,528,867
Right-of-use assets	223,943
Interests in associates	1,421,184
Interests in joint ventures	3,152
Investments at fair value through profit or loss	43,714
Other non-current assets	95,102
Contract assets	47,107
Deferred tax assets	25,941
Trade and other receivables	5,012,995
Amounts due from related companies	27,469
Amount due from the Group	29,917
Tax recoverable	346
Pledged bank and other deposits	221,033
Bank balances and cash	1,310,548
Assets classified as held for sale	669,620
Total assets	13,660,938

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(A) Year ended 31 December 2022 (Continued)

(i) Disposals of subsidiaries and deemed disposals of partial interests in subsidiaries by the Group (Continued)

(a) Deemed disposal of partial interest in GNE and Distribution in Specie of GNE shares (Continued)

	RMB'000
LIABILITIES	
Other payables and deferred income	(1,197,886)
Amounts due to related companies	(5,174)
Tax payable	(5,254)
Amount due to the Group	(117,509)
Liabilities directly associated with assets classified as held for sale	(513,156)
Loans from related companies	(14,811)
Bank and other borrowings	(2,172,775)
Notes payables	(2,688,543)
Lease liabilities	(277,655)
Deferred income	(338,365)
Deferred tax liabilities	(679)
Total liabilities	(7,331,807)
Net assets of GNE disposed of	6,329,131
Non-controlling interest	2,077,657
Fair value of perpetual notes of GNE held by the Group	2,024,879
Retained share in the fair value of identifiable net assets of GNE	261,770
Fair value of odd lots of undistributed GNE shares that are classified as held for trading	1,343
Special interim dividend by way of distribution in specie	1,963,482#
Analysis of net cash outflow in respect of Distribution in Specie	
Cash and cash equivalents distributed	1,310,548
Cash and cash equivalents included in assets classified as held for sale distributed	21,411
Transaction costs	19,052
	1,351,011

The special interim dividend included the difference between the Retained share in fair value of identifiable net assets of GNE and the fair value of retained GNE's shares at the date of completion of Distribution in Specie of RMB136,444,000.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(A) Year ended 31 December 2022 (Continued)

(i) Disposals of subsidiaries and deemed disposals of partial interests in subsidiaries by the Group (Continued)

(b) Deemed disposal of partial interest in Inner Mongolia Xin Yuan Silicon Material Technology Co. Ltd ("Inner Mongolia Xin Yuan")

During the year ended 31 December 2022, the Group entered into a capital injection agreement with certain non-controlling shareholders of Inner Mongolia Xin Yuan and a new investor, pursuant to which the new investor agreed to subscribe for RMB580 million newly-increased registered and paid-up capital of Inner Mongolia Xin Yuan with a cash consideration of RMB580 million. After completion of the capital injection and as at 31 December 2022, the Group's interest in Inner Mongolia Xin Yuan decreased from 67.76% to 56.77%. As the difference between the consideration received from the investors and relevant carrying amount of non-controlling interest upon the capital injection is insignificant, no deemed gain or loss on partial disposal of a subsidiary was recognised in special reserve in consolidated statement of changes in equity.

(c) Disposals of equity interests in subsidiaries

For the year ended 31 December 2022, the Group completed two transactions with two independent third parties pursuant to which the Group transferred 100% equity interest of two subsidiaries, GCL-CIRO Holdings, LLC ("GCL CIRO") and Guayama Solar Energy, LLC ("Guayama") for a consideration of US$14,086,800 (equivalent to approximately RMB98,372,000) and US$2,913,200 (equivalent to approximately RMB20,344,000), respectively. For the disposal of GCL CIRO, approximately US$9,135,000 (equivalent to approximately RMB63,792,000) will be received by a local developer from the seller to re-initiate the solar plant facility and the remaining of US$4,951,800 (equivalent to approximately RMB34,580,000) will be received by the Group. For the disposal of Guayama, all of the consideration will be received by the Group.

As the major asset of GCL CIRO, such as property, plant and equipment and inventories were fully impaired in prior years due to the highly uncertainty at its operation domicile, the Directors considered that GCL-CIRO has net asset value with minimal amount as at the completion date.

The major asset of Guayama, such as property, plant and equipment and inventories were fully impaired in prior years due to the highly uncertainty at its operation domicile, however, its liability of US$1,958,000 (equivalent to approximately RMB13,673,000) was still existed.

The Directors considered that Guayama has net liability value as at the completion date.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(A) Year ended 31 December 2022 (Continued)

(i) Disposals of subsidiaries and deemed disposals of partial interests in subsidiaries by the Group (Continued)

(c) Disposal of equity interests in subsidiaries (Continued)

Hence, the Group recognized the differences between the considerations to be received and the net asset value of GCL CIRO and the net liability value of Guayama as at the completion date as gain on disposal of US$5,907,000 (equivalent to approximately RMB41,248,000) in the profit or loss.

Up to 31 December 2022, US$3,543,120 (equivalent to approximately RMB24,676,000) have been settled.

(d) Disposals of subsidiaries by GNE

During the year ended 31 December 2022 and before the completion of Distribution in Specie, GNE Group entered into equity transfer agreements with four independent third parties to dispose of 100% equity interests in 7 subsidiaries and 60% equity interest in a subsidiary with an aggregate consideration of approximately RMB241 million and a loss on disposals of RMB47,630,000 was recognised in the profit or loss, which has been included in the loss of discontinued operation.

(B) Year ended 31 December 2021

(i) Disposal of a subsidiary and deemed disposals of partial interests in subsidiaries by the Group

(a) Deemed disposal of partial interest in a subsidiary

On 5 January 2021, a disposal of 638,298,000 GNE shares from the Elite Time at price of HK$0.235 per share with net proceeds of approximately HK$145 million (equivalent to approximately RMB126 million) was completed.

On 10 February 2021, the GNE Group announced that the Elite Time, the Company and the placing agents under which up to a total of 2,000 million of new shares of GNE to be issued (the "Transaction"). The Transaction has been completed on 17 and 19 February 2021 and net proceeds of the Transaction, after taking into account all related costs, fees, expenses and commission of the Transaction, were approximately HK$895 million (equivalent to RMB747 million).

As a result, Elite Time's equity interest in GNE was reduced from 57.75% to 49.24%. As the change in the Group's interest in GNE did not result in a loss of control, such change was accounted for as an equity transaction, whereby an adjustment was made to the amounts of controlling and non-controlling interests within consolidated statement of changes in equity to reflect the change in the relative interest.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(i) Disposal of a subsidiary and deemed disposals of partial interests in subsidiaries by the Group (Continued)

(b) Deemed disposal of partial interest in a subsidiary through newly-increased registered capital/ Change of shareholding of subsidiaries

In 2020, the Group entered into certain investment agreements (the "Agreements") with certain investors, (i) the Group agreed to transfer RMB2,389,000 registered capital of Kunshan GCL to an investor of Kunshan GCL at a consideration of RMB20 million, representing 3.82% of the registered capital of Kunshan GCL; and (ii) the certain investors agreed to subscribe RMB12,593,000 new registered capital of Kunshan GCL in cash at RMB136 million, representing 20.12% of the registered capital of Kunshan GCL. Pursuant to the Agreements, the certain investors were given the right to request the Group to repurchase their equity interest in Kunshan GCL at a premium under certain circumstances.

In September 2020, the Group entered into an investment agreement with a non-controlling shareholder, pursuant that (i) Kunshan GCL agreed to allot and the non-controlling shareholder agreed to subscribe for RMB92,000 new registered capital at a consideration of RMB1 million, representing 0.15% of the registered capital of Kunshan GCL; and (ii) the non-controlling shareholder, agreed subscribe a convertible bond with principal amount of RMB49 million to be issued by Kunshan GCL.

As at 31 December 2021, the transactions were completed and the contribution received from certain investors for the new registered capital were RMB65 million.

In 2021, two non-wholly owned subsidiaries of the Group are direct and indirect shareholders of Kunshan GCL respectively. The percentage held by non-controlling shareholders in the two non-wholly owned subsidiaries were 41.43% and 4.00% respectively. During 2021, the Group entered into an agreement with these non-controlling shareholders pursuant to which the non-controlling shareholders agreed to reduce their respective equity interest in the two non-wholly owned subsidiaries to nil with zero consideration. In return, Kunshan GCL issued 26.03% registered capital to these non-controlling shareholders under another agreement. The above was regarded as an internal group restructuring which have no material impact to the Group interest in Kunshan GCL.

As at 31 December 2021, the Group's equity interest in Kunshan GCL was 50.03% and Kunshang GCL remained as the subsidiary of the Group.

(c) In November 2021, the Group entered into a equity transfer agreement with an associate Xinjiang GCL, to dispose of 80% equity interest in 新疆協鑫硅業科技有限公司 Xinjiang GCL Silicon Industry Company Limited ("Xinjiang Silicon") for a consideration of approximately RMB16 million and the gain on disposal of a subsidiary of RMB16,134,000 was recognised in profit or loss. Following the completion of the above disposal, the Group holds 20% equity interest in Xinjiang Silicon, which became an associate of the Group.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment

(i) Disposal groups classified as held for sale as at 31 December 2020

(a) Hua Neng Phase 2

On 29 September 2020, the GNE Group entered into six equity transfer agreements with 華能工融一號(天津)股權投資基金合夥企業有限公司 Huaneng Gongrong No.1 (Tianjin) Equity Investment Fund Partnership (Limited Partnership)* ("Hua Neng No.1 Fund") and 華能工融二號(天津)股權投資基金合夥企業有限公司 Huaneng Gongrong No.2 (Tianjin) Equity Investment Fund Partnership (Limited Partnership)* ("Hua Neng No.2 Fund") to dispose of its 100% equity interest in six wholly-owned subsidiaries, namely 湖北省麻城市金伏太陽能電力有限公司 Hubei Macheng Photovoltaic Power Company Limited* ("Hubei Macheng"), 輝縣市協鑫光伏電力有限公司 Huixian City GCL Photovoltaic Power Company Limited* ("Huixian City GCL"), 淇縣協鑫新能源有限公司 Qixian GCL New Energy Limited* ("Qixian GCL"), 汝陽協鑫新能源有限公司 Ruyang GCL New Energy Limited* ("Ruyang GCL"), 包頭市中利騰暉光伏發電有限公司 Baotou Zhonglitenghui Photovoltaic Power Company Limited* ("Baotou Zhonglitenghui") and 寧夏中衛協鑫光伏電力有限公司 Ningxia Zhongwei Photovoltaic Power Company Limited* ("Ningxia Zhongwei") at an aggregate consideration of RMB576,001,000 and the repayment of corresponding interest in shareholder's loan as at the date of disposals (the "Disposal Date B"). The GNE Group and Hubei Macheng mutually agreed to reduce the consideration from RMB576,001,000 to RMB567,439,000 during the year ended 31 December 2021. The subsidiaries operate solar power plant projects with an aggregate capacity of 403MW in Henan, the PRC ("the Project A").

The disposals of Huixian City GCL and Qixian GCL were completed during the year ended 31 December 2020 with an aggregate consideration of RMB117,515,000. During the year ended December 2021, the disposals of Hubei Macheng, Ruyang GCL,Baotou Zhonglitenghui and Ningxia Zhongwei with an aggregate consideration of RMB449,924,000 were completed.

The GNE Group has granted a put option to Hua Neng No. 1 Fund and Hua Neng No. 2 Fund, pursuant to which the GNE Group has agreed that if the Project A fails to fully receive the balance of the tariff adjustment receivables (the "Tariff Adjustment Receivables") as at the disposal date during the four-year period after the disposal or the operation of the Project A is disrupted for more than six months due to the reasons stipulated in the equity transfer agreements, the GNE Group shall repurchase the entire equity interest in the Project A from Hua Neng No. 1 Fund and Hua Neng No. 2 Fund at a repurchase price which is the higher of (1) equity value of the Project A assessed by The State-owned Assets Supervision and Administration Commission of the State Council or (2) a repurchase price calculated in accordance with terms specified in the equity transfer agreements, together with any outstanding shareholder's loan advanced to the Project A by Hua Neng No. 1 Fund and Hua Neng No. 2 Fund. As the Project A has already registered in the List and receipt of tariff adjustment receivables is stable, in the opinion of the Directors, it is highly probable that the balance of the Tariff Adjustment Receivables will be collected within four years after the disposal date and therefore, the possibility regarding the occurrence of the specified events as stipulated in the equity transfer agreements that would trigger the repurchase event is remote, and the fair value of the put option as at 31 December 2021 is considered as insignificant.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(i) Disposal groups classified as held for sale as at 31 December 2020 (Continued)

(b) Hefei Jiannan & Hefei Jiuyang

On 16 November 2020, the GNE Group entered into five equity transfer agreements with 徐州國投環保能源有限公司 Xuzhou State Investment & Environmental Protection Energy Co., Ltd* ("Xuzhou State Investment") to dispose of its 90% equity interest in each of Suzhou GCL Solar Power, Huaibei Xinneng, Hefei Jiannan and Hefei Jiuyang and 67% equity interest in Dangshan Xinneng, at an aggregate consideration of RMB276,437,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Xuzhou State Investment mutually agreed to reduce the consideration from RMB276,437,000 to RMB269,267,000 during the year ended 31 December 2020. The subsidiaries operate solar power plant projects with an aggregate capacity of 174MW in Anhui, the PRC.

The disposals of Suzhou GCL Solar Power, Huaibei Xinneng and Dangshan Xinneng were completed during the year ended 31 December 2020 with an aggregate consideration of RMB166,476,000. During the year ended 31 December 2021, the disposals of Hefei Jiannan and Hefei Jiuyang with an aggregate consideration of RMB102,791,000 were completed.

(c) Zhenglanqi

On 4 December 2020, the GNE Group entered into an equity transfer agreement with 北京聯合榮邦新能源科技有限公司 Beijing United Rongbang New Energy Technology Co., Ltd* ("Beijing Limited Rongbang") to disposal of all of its 99.2% equity interest in 正藍旗國電光伏發電有限公司 Zhenglanqi State Power Photovoltaic Company Limited* ("Zhenglanqi") at an aggregate consideration of RMB211,100,000 and the repayment of interest in shareholder's loan as at the date of disposal. During the year ended 31 December 2020, RMB79,000,000 has been received and recognised as other payables as at 31 December 2020. The GNE Group and Beijing United Rongbang mutually agreed to reduce the consideration from RMB211,100,000 to RMB209,600,000. Zhenglanqi has a solar power plant project with installed capacity of approximately 50MW in Inner Mongolia, the PRC. The disposal was completed in September 2021.

(d) Shenmu Guotai

On 10 December 2020, the GNE Group entered into an agreement with 上海綠璟投資有限公司 Shanghai Lujing Investment Management Limited* ("Shanghai Lujing") and 陝西省神木縣國祥綠化生態有限公司 Shaanxi Shenmu Guoxiang Green Ecology Co., Ltd.* ("Shenmu Guoxiang"). Pursuant to the agreement, Shanghai Lujing and Shenmu Guoxiang transferred their equity interests (i.e. 20%) in Shenmu County Jingdeng to the GNE Group and the GNE Group transferred its controlling right (i.e. 80% equity interest) in 神木市國泰農牧發展有限公司 Shenmu Guotai Development Limited* ("Shenmu Guotai"). The transaction has been completed on Jan 2021. After the completion of the transaction, the Group holds 100% of equity interest in Shenmu County Jingdeng and has no any equity interest in Shenmu Guotai.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(ii) Five subsidiaries in Anhui

On 22 November 2020, the GNE Group entered into five equity transfer agreements with Xuzhou State Investment to dispose of its 90% equity interest in each of Dangshan GCL, Funan GCL, Hefei Xinren and Tianchang GCL and its 50% equity interest in Taihu Xinneng, at an aggregate consideration of RMB312,728,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Xuzhou State Investment mutually agreed to reduce the consideration from RMB312,728,000 to RMB307,898,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 217MW in Anhui, the PRC. The disposals were completed from January to April 2021.

(iii) Hua Neng Phase 3

On 19 November 2020, the GNE Group entered into fourteen equity transfer agreements with Hua Neng No.1 Fund and Hua Neng No.2 Fund to dispose of its 100% equity interest in twelve wholly-owned subsidiaries, namely Baoying Xinyuan Photovoltaic Power Co., Ltd.* ("Baoying Xinyuan"), Lianshui Xinyuan Photovoltaic Power Co., Ltd.* ("Lianshui Xinyuan"), Lanxi Jinrui Photovoltaic Power Co., Ltd.* ("Lanxi Jinrui"), Zhongli Tenghui Hainan Electric Power Co., Ltd.* ("Zhongli Tenghui"), Delingha Energy Power Co., Ltd.* ("Delingha Energy"), Gaotang County GCL Jinghui Photovoltaic Co., Ltd.* ("Gaotang County GCL"), Hetian GCL Photovoltaic Power Co., Ltd.* ("Hetian GCL"), Liaocheng Xiechang Photovoltaic Power Co., Ltd.* ("Liaocheng Xiechang"), Yanbian Xinneng Photovoltaic Power Co., Ltd.* ("Yanbian Xinneng"), Delingha Century Concord Photovoltaic Power Co., Ltd.* ("Delingha Century Concord"), Delingha Shidai New Energy Power Co., Ltd.* ("Delingha Shidai"), Hainanzhou Shineng Photovoltaic Power Co., Ltd.* ("Hainanzhou Shineng"), it 51% equity interest in Yuncheng Xinhua Energy Development Co., Ltd.* ("Yuncheng Xinhua") and its 56.5131% equity interest in Yili GCL Energy Limited ("Yili GCL") at an aggregate consideration of RMB666,654,000 and the repayment of interest in shareholder's loan as at the date of disposals (the "Disposal Date B"). The GNE Group and Hua Neng No. 1 Fund and Hua Neng No. 2 Fund mutually agreed to reduce the consideration from RMB666,654,000 to RMB572,003,000 during the year ended 31 December 2021. The subsidiaries operate solar power plant projects with in aggregate capacity of 430MW in Yangzhou, Qinghai, Xinjiang, Shandong, Zhejiang and Sichuan, the PRC (the "Project B").

During the year ended 31 December 2021, the disposals of Baoying Xinyuan, Lianshui Xinyuan, Lanxi Jinrui, Zhongli Tenghui, Delingha Energy, Hetian GCL, Liaocheng Xiechang, Yanbian Xinneng, Yili GCL, Delingha Century Concord, Delingha Shidai, Hainanzhou Shineng with an aggregate consideration of RMB572,003,000 were completed. The disposals of Gaotang County GCL and Yuncheng Xinhua have been cancelled.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(iii) Hua Neng Phase 3 (Continued)

The GNE Group has granted a put option to Hua Neng No. 1 Fund and Hua Neng No. 2 Fund, pursuant to which the GNE Group has agreed that if the Project B fails to fully receive the balance of the tariff adjustment receivables (the "Tariff Adjustment Receivables") as at the Disposal Date B during the four-year period after the Disposal Date B, or the operation of the Project B is disrupted for more than six months due to the reasons stipulated in the equity transfer agreements, the GNE Group shall repurchase the entire equity interest in the Project B from Hua Neng No. 1 Fund and Hua Neng No. 2 Fund at a repurchase price which is the higher of (1) equity value of the Project B assessed by The State-owned Assets Supervision and Administration Commission of the State Council or (2) a repurchase price calculated in accordance with terms specified in the equity transfer agreements, together with any outstanding shareholder's loan advanced to the Project B by Hua Neng No. 1 Fund and Hua Neng No. 2 Fund. As the Project B has already registered in the List and receipt of tariff adjustment receivables is stable, in the opinion of the Directors, it is highly probable that the balance of the Tariff Adjustment Receivables will be collected within four years after the Disposal Date B and therefore, the possibility regarding the occurrence of the specified events as stipulated in the equity transfer agreements that would trigger the repurchase event is remote, and the fair value of the put option as at 31 December 2021 is considered as insignificant.

(iv) Six subsidiaries in Henan

On 31 March 2021, the GNE Group entered into six equity transfer agreements with Three Gorges to dispose of its 100% equity interest in four wholly-owned subsidiaries, namely Sanmenxia Xie Li Solar Power Co., Ltd.* ("Sanmenxia Xie Li"), Kaifeng Huaxin New Energy Development Co., Ltd.* ("Kaifeng Huaxin"), Shangshui GCL Photovoltaic Electric Power Co, Ltd.* ("Shangshui GCL") and Queshan Zhuiri New Energy Power Company Limited* ("Queshan Zhuiri") and its 50% equity interest in each of Taiqian GCL Photovoltaic Power Company Limited* ("Taiqian GCL") and Nanzhao Xin Li Photovoltaic Electric Power Co, Ltd.* ("Nanzhao Xin Li"), at an aggregate consideration of RMB364,650,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Three Gorges mutually agreed to reduce the consideration from RMB364,650,000 to RMB342,796,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 321MW in Henan, the PRC. The disposals were completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(v) Ceheng Solar and Liuzhi GCL

On 30 April 2021, the GNE Group entered into two equity transfer agreements with 國家電投集團貴州金元威寧能源股份有限公司 State Power Investment Corporation Guizhou Jinyuan Weining Energy Co., Ltd* ("State Power Investment Corporation Guizhou Jinyuan Weining") to dispose of its 100% equity in two wholly-owned subsidiaries namely, Ceheng Solar Power Co., Ltd.* ("Ceheng Solar") and Liuzhi GCL Photovoltaic Power Co., Ltd.* ("Liuzhi GCL"), at an aggregate consideration of RMB225,560,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The subsidiaries operate solar power plant projects with an aggregate capacity of 134MW in Guizhou, the PRC. The disposals were completed during the year ended 31 December 2021.

(vi) Six subsidiaries in Hubei and Jiangxi

On 24 June 2021, the GNE Group entered into six equity transfer agreements with Chongqing Lvxin to dispose of its 100% equity interest in four wholly-owned subsidiaries namely, Shiyan Yunneng, Jingshan GCL, Jingshan Xinhui and Shanggao County Lifeng, its 70% equity interest in Shicheng GCL and its 51% equity interest in Anfu GCL, at an aggregate consideration of RMB275,264,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Chongqing Lvxin mutually agreed to reduce the consideration from RMB275,264,000 to RMB272,864,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 149MW in Hubei and Jiangxi, the PRC. The disposals were completed during the year ended 31 December 2021.

(vii) Yongcheng Xin Neng

On 7 May 2021, the GNE Group entered into an equity transfer agreement with 國家電投集團重慶電力有限公司 State Power Investment Corporation Chongqing Electric Power Co., Ltd.* ("State Power Investment Corporation Chongqing") to dispose of its 100% equity interest in a wholly-owned subsidiary namely, Yongcheng Xin Neng Photovoltaic Electric Power Co, Ltd.* ("Yongcheng Xin Neng"), at a consideration of RMB193,000,000 and the repayment of interest in shareholder's loan as at the date of completion of disposal. The GNE Group and State Power Investment Corporation Chongqing mutually agreed to reduce the consideration from RMB193,000,000 to RMB166,584,000. The subsidiary operate solar power plant project with a capacity of 86MW in Henan, the PRC. The disposal was completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(viii) Seven Subsidiaries in Yunnan

On 25 June 2021, the GNE Group entered into seven equity transfer agreements with Three Gorges to dispose of its 100% equity interest in six wholly-owned subsidiaries, namely Hong He Xian Rui Xin Photovoltaic Power Generation Company Limited* ("Hong He Xian Rui Xin"), Kun Ming Xu Feng Photovoltaic Power Generation Company Limited* ("Kun Ming Xu Feng"), Luquan GCL Solar Power Generation Company Limited* ("Luquan GCL"), Heqing Xinhua Photovoltaic Power Co., Ltd.* ("Heqing Xinhua"), Menghai GCL Solar Agricultural Power Co., Ltd.* ("Menghai GCL") and Yuxi Zhongtai New Energy Technology Co., Ltd.* ("Yuxi Zhongtai") and its 80% equity interest in Yuanmou Green Power New Energy Development Limited* ("Yuanmou"), at an aggregate consideration of RMB218,960,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Three Gorges mutually agreed to reduce the consideration from RMB218,960,000 to RMB216,330,000.The subsidiaries operate solar power plant projects with an aggregate capacity of 229MW in Yunnan, the PRC. The disposals were completed during the year ended 31 December 2021.

(ix) Sixteen Subsidiaries in Jiangsu

On 21 July 2021, the GNE Group entered in a series of sixteen equity transfer agreements with 宜興和創新能源有限公司 Yixing Hechuang New Energy Co., Ltd.* ("Yixing Hechuang") to dispose of its equity interests in Funing Xinyuan Photovoltaic Power Co., Ltd.* ("Funing Xinyuan"), Guanyun GCL Photovoltaic Power Co., Ltd.* ("Guanyun"), Donghai GCL Photovoltaic Power Co., Ltd.* ("Donghai"), Peixian Xinri Photovoltaic Power Co., Ltd.* ("Peixian Xinri"), Xuzhou Xinhui Photovoltaic Power Co., Ltd.* ("Xuzhou Xinhui"), Huaian Xinyuan Photovoltaic Power Co., Ltd.* ("Huaian Xinyuan"), Huaian Ronggao Photovoltaic Power Generation Co., Ltd.* ("Huaian Ronggao"), Zhenjiang Xinli Photovoltaic Power Co., Ltd.* ("Zhenjiang Xinli"), Zhenjiang Xinlong Photovoltaic Power Co., Ltd.* ("Zhenjiang Xinlong"), Zhangjiagang GCL Photovoltaic Power Co., Ltd.* ("Zhangjiagang"), Nantong GCL New Energy Co., Ltd.* ("Nantong GCL"), Lianyungang Xinzhong Photovoltaic Power Co., Ltd.*("Lianyungang Xinzhong"), Xinyi Xinri Photovoltaic Power Co., Ltd.* ("Xinyi Xinri"), Jurong Xinda Photovoltaic Power Generation Co., Ltd.* ("Jurong Xinda"), Nanjing Xinri Photovoltaic Power Generation Co., Ltd.* ("Nanjing Xinri") and Baoying GCL Photovoltaic Power Co., Ltd.* ("Baoying GCL"), the subsidiaries, at an aggregate consideration of RMB481,314,000 and repayment of corresponding interest in shareholder's loan as at the date of disposal. The GNE Group and Yixing Hechuang mutually agreed to reduce the consideration from RMB481,314,000 to RMB475,983,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 50MW in Jiangsu, the PRC. The disposals were completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(*x*) *Yanyuan Baiwu New Energy Technology Co., Ltd.*

On 12 July 2021, the GNE Group entered into an agreement with Hunan Xinhua to sell its equity interest in Yanyuan Baiwu New Energy Technology Co., Ltd.* ("Yanyuan Baiwu") at a consideration of RMB170,387,000 and repayment of corresponding interest in shareholder's loan as at the date of disposal. The subsidiary operates solar power plant projects with an aggregate capacity of 50MW in Sichuan, the PRC. The disposal was completed during the year ended 31 December 2021.

(*xi*) *Five subsidiaries in Hunan*

On 27 August 2021 and 1 September 2021, the GNE Group entered into six equity transfer agreements with Guizhou West Power Construction Co., Ltd ("Guizhou West Power") to dispose of its 100% equity interest in five wholly-owned subsidiaries, namely Taoyuan Xinhui Photovoltaic Power Co., Ltd.* ("Taoyuan Xinhui"), Taoyuan Xinneng Photovoltaic Power Co., Ltd.* ("Taoyuan Xinneng"), Taoyuan Xinyuan Photovoltaic Power Co., Ltd.* ("Taoyuan Xinyuan"), Yongzhou Xiexin Photovoltaic Power Co., Ltd.* ("Yongzhou Xiexin") and Changsha Xinjia Photovoltaic Power Co., Ltd.* ("Changsha Xinjia") at an aggregate consideration of RMB118,161,000 and the repayment of interest in shareholder's loan as at the date of disposals. The GNE Group and Guizhou West Power mutually agreed to reduce the consideration from RMB118,161,000 to RMB102,300,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 101MW in Hunan, the PRC. The disposals of all above companies were completed during the year ended 31 December 2021.

(*xii*) *Four subsidiaries in Shanxi*

On 1 April 2021, the GNE Group entered into four equity transfer agreements with Three Gorges to dispose of its 98.4% equity interest in Jingbian GCL, its 80.3514% equity interest in Hengshan Jinghe and its 100% equity interest in two wholly-owned subsidiaries, namely Yulin Longyuan and Yulin Yushen at an aggregate consideration of RMB1,250,207,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Three Gorges mutually agreed to reduce the consideration from RMB1,250,207,000 to RMB1,249,997,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 469MW in Shanxi, the PRC. The disposals of all above companies were completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(xiii) Four subsidiaries in Shaanxi

On 30 August 2021, the GNE Group entered into four equity transfer agreements with 寧夏含光新能源有限公司 Ningxia Hanguang New Energy Co., Ltd.* ("Ningxia Hanguang") to dispose of its 100% equity interests in Shenmu Pingyuan Power Co., Ltd.* ("Shenmu Pingyuan"), Shenmu Pingxi Power Co., Ltd.* ("Shenmu Pingxi"), Shenmu County Jingdeng and Xixian New District at an aggregate consideration of RMB270,934,000 and repayment of corresponding interest in shareholder' loan as at the date of disposal. The GNE Group and Ningxia Hanguang mutually agreed to reduce the consideration from RMB270,934,000 to RMB267,929,000.The subsidiaries operate solar power plant projects with an aggregate capacity of 271MW in Shaanxi, the PRC. The disposals of 90% of Shenmu County Jingdeng and Xixian New District was completed in October 2021. The disposals of 90% of Shenmu Pingyuan and Shenmu Pingxi was completed in November 2021. The disposals of all above companies were completed during the year ended 31 December 2021.

(xiv) Shenmu Jingfu and Shenmu Jingpu

On 13 September 2021, the GNE Group entered into two equity transfer agreements with Ningxia Hanguang to dispose of its 100% equity interest in two wholly-owned subsidiaries, namely Shenmu Jingfu Power Co., Ltd.* ("Shenmu Jingfu") and Shenmu Jingpu Power Co., Ltd.* ("Shenmu Jingpu") at an aggregate consideration of RMB215,576,000. The GNE Group and Ningxia Hanguang mutually agreed to reduce the consideration from RMB215,576,000 to RMB213,173,000.The subsidiaries operate solar power plant projects with an aggregate capacity of 198MW in Shaanxi, the PRC. The disposals of 90% of Shenmu Jingfu and Shenmu Jingpu was completed during the year ended 31 December 2021.

(xv) Others

(a) Jingbian County Shunfeng

On 1 April 2021, the GNE Group entered into an equity transfer agreement with Three Gorges to dispose of its 99.635% equity interest in Jingbian County Shunfeng New Energy Limited* ("Jingbian County Shunfeng"), at a consideration of RMB72,036,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. Jingbian County Shunfeng operates a solar power plant project with a capacity of 42MW in Shaanxi, the PRC. The disposal was completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(xv) Others (Continued)

(b) Zhenyuan County Xuyang

On 5 May 2021, the GNE Group entered into an equity transfer agreement with 中電投新疆能源化工集團隴西新能源有限責任公司 CPI Xinjiang Energy Chemical Group Longxi New Energy Co. Ltd.* ("CPI Xinjiang") to dispose of its 100% equity interest in a wholly-owned subsidiary, namely Zhenyuan County Xuyang New Energy Technologies Co., Ltd.* ("Zhenyuan County Xuyang"), at a consideration of RMB22,500,000 and the repayment of interest in shareholder's loan as at the date of completion of disposal. Zhenyuan County Xuyang operates a solar power plant project with a capacity of 20MW in Gansu, the PRC. The disposal was completed during the year ended 31 December 2021.

(c) Ceheng Jingzhun and Luodian GCL

On 26 April 2021, the GNE Group entered into two equity transfer agreements with State Power Investment Corporation Guizhou Jinyuan Weining to dispose of its 99% equity interest in Ceheng Jingzhun Solar Power Co., Ltd.* ("Ceheng Jingzhun") and its 100% equity interest in a wholly-owned subsidiary, namely Luodian GCL Photovoltaic Power Company Limited* ("Luodian GCL"), at an aggregate consideration of RMB35,228,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and State Power Investment Corporation Guizhou Jinyuan Weining mutually agreed to reduce the consideration from RMB 35,228,000 to RMB14,500,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 70MW in Guizhou, the PRC. The disposals were completed during the year ended 31 December 2021.

(d) Dingan GCL and Suixi GCL

On 26 April 2021, the GNE Group entered into two equity transfer agreements with 廣東金元新能源有限公司 Jinyuan New Energy Co., Ltd.* ("Jinyuan New Energy") to dispose of its 100% equity in two wholly-owned subsidiaries namely, Dingan GCL Solar Power Co., Ltd.* ("Dingan GCL") and Suixi GCL Photovoltaic Power Co., Ltd.* ("Suixi GCL"), at an aggregate consideration of RMB117,723,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The subsidiaries operate solar power plant projects with an aggregate capacity of 57MW in Hainan and Guangdong, the PRC. The disposals were completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(xv) Others (Continued)

(e) Hai Nan Yi Cheng and Yingde GCL

On 30 April 2021, the GNE Group entered into two equity transfer agreements with Jinyuan New Energy to dispose of its 88.373% equity in Hai Nan Yi Cheng New Energy Company Limited * ("Hai Nan Yi Cheng") and its 90.1% equity in Yingde GCL Photovoltaic Power Co., Ltd.* ("Yingde GCL"), at an aggregate consideration of RMB91,051,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Jinyuan New Energy mutually agreed to reduce the consideration from RMB91,051,000 to RMB89,301,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 48MW in Guizhou, the PRC. The disposals were completed during the year ended 31 December 2021.

(f) Nanjing GCL

On 25 January 2021, the GNE Group entered into an equity transfer agreement with an independent third party and agreed to sell 100% equity interest of Nanjing GCL New Energy Technology Co., Ltd* ("Nanjing GCL") at a consideration of RMB13,000,000. The disposal was completed during the year ended 31 December 2021.

(g) Wulate Houqi Yuanhai

On 29 January 2021, the GNE Group entered into an equity transfer agreement with 北京聯合榮邦新能源科技有限公司 Beijing United Rongbang New Energy Technology Co., Ltd.* ("Beijing United Rongbang") to dispose of its 100% equity interest in a wholly-owned subsidiary namely, 烏拉特後旗源海新能源有限責任公司 Wulate Houqi Yuanhai New Energy Limited ("Wulate Honqi Yuanhai"), at a consideration of RMB52,550,000 and the repayment of interest in shareholder's loan as at the date of completion of disposal. The GNE Group and Beijing United Rongbang mutually agreed to reduce the consideration from RMB52,550,000 to RMB38,050,000. The subsidiary operates solar power plant project with a capacity of 53MW in Inner Mongolia, the PRC. The disposal was completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

(xv) Others (Continued)

(h) Haifeng County GCL and Anlong Maoan

On 21 May 2021, the GNE Group entered into two equity transfer agreements with Guizhou West Power to dispose of its 100% equity interest in two wholly-owned subsidiaries, namely Haifeng County GCL Solar Power Co., Ltd ("Haifeng County GCL") and Anlong Maoan New Energy Development Company Limited ("Anlong Maoan"), at an aggregate consideration of RMB82,264,000 and the repayment of interest in shareholder's loan as at the date of completion of disposals. The GNE Group and Guizhou West Power mutually agreed to reduce the consideration from RMB82,264,000 to RMB79,189,000. The subsidiaries operate solar power plant projects with an aggregate capacity of 131MW in Guangdong and Guizhou, the PRC. The disposals were completed during the year ended 31 December 2021.

(i) Eshan GCL

On 5 July 2021, the GNE Group entered into an agreement with Guizhou West Power to sell its equity interest in Eshan GCL Solar Power Generation Company Limited* ("Eshan GCL") at a consideration of RMB43,100,000 and repayment of corresponding interest in shareholder's loan as at the date of disposal. The GNE Group and Guizhou West Power mutually agreed to reduce the consideration from RMB43,100,000 to RMB40,236,000.The subsidiary operates solar power plant projects with an aggregate capacity of 50MW in Yunnan, the PRC. The disposal was completed during the year ended 31 December 2021.

42. DISPOSAL OF SUBSIDIARIES/PARTIAL INTEREST IN SUBSIDIARIES (Continued)

(B) Year ended 31 December 2021 (Continued)

(ii) Disposal of subsidiaries of new energy business segment (Continued)

The net assets of the solar plant projects at the dates of disposals were as follows:

	Disposal groups classified as held for sale RMB'000 Note (i)	Five subsidiaries in Anhui RMB'000 Note (ii)	Hua Neng Phase 3 RMB'000 Note (iii)	Six subsidiaries in Henan RMB'000 Note (iv)	Ceheng Solar and Liuzhi GCL RMB'000 Note (v)	Six subsidiaries in Hubei and Jiangxi RMB'000 Note (vi)	Yongcheng Xin Neng RMB'000 Note (vii)	Seven subsidiaries in Yunnan RMB'000 Note (viii)	Sixteen subsidiaries in Jiangsu RMB'000 Note (ix)	Yanyuan Baiwu RMB'000 Note (x)	Five subsidiaries in Hunan RMB'000 Note (xi)	Four subsidiaries in Shanxi RMB'000 Note (xii)	Four subsidiaries in Shaanxi RMB'000 Note (xiii)	Shenmu Jingfu and Shenmu Jingpu RMB'000 Note (xiv)	Others RMB'000 Note (xv)	Total RMB'000
Consideration:																
Consideration received during:																
— current year	683,315	307,898	572,003	342,796	225,560	272,864	166,584	154,926	429,417	170,387	55,037	1,249,997	267,929	213,173	419,128	5,531,014
— prior year	79,000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	79,000
Consideration receivable	–	–	–	–	–	–	–	61,404	46,566	–	47,263	–	–	–	67,407	222,640
Deemed consideration received	19,979	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19,979
	782,294	307,898	572,003	342,796	225,560	272,864	166,584	216,330	475,983	170,387	102,300	1,249,997	267,929	213,173	486,535	5,852,633
Property, plant and equipment	2,558,959	1,226,309	2,002,740	1,407,267	648,228	734,225	376,481	1,281,229	1,578,834	184,958	519,518	3,386,299	1,441,853	1,178,333	2,626,754	21,151,987
Right-of-use assets	75,051	42,848	80,716	148,369	18,677	22,015	31,409	35,703	161,907	18,805	15,914	91,725	62,011	–	118,677	923,827
Other non-current assets	81,784	52,066	95,592	123,231	32,543	52,497	39,000	33,808	101,868	2,286	28,959	80,278	100,746	56,140	54,508	935,306
Deferred tax assets	–	2,704	6,299	13,575	6,599	6,891	3,762	6,159	8,393	–	–	10,245	–	155	22,704	87,486
Trade and other receivables	718,055	563,855	1,219,233	761,080	277,233	253,267	164,788	478,812	1,241,982	192,584	210,043	1,932,128	635,164	600,019	952,942	10,201,185
Pledged bank deposits	43,882	–	–	–	–	–	–	–	–	–	–	–	–	–	–	43,882
Bank balances and cash	48,018	69,003	29,376	56,063	4,036	23,047	11,540	16,712	86,452	42,445	16,945	694,173	73,073	50,659	78,279	1,299,821
Other payables	(154,844)	(754,899)	(94,928)	(49,022)	(313,680)	(258,193)	(165,594)	(224,256)	(91,760)	(87,907)	(308,378)	(71,956)	(198,174)	(191,708)	(1,641,547)	(4,606,846)
Bank and other borrowings	(1,712,866)	(813,260)	(2,420,787)	(2,408,941)	(491,764)	(493,442)	(327,084)	(1,268,585)	(2,484,764)	(208,000)	(291,215)	(5,023,704)	(1,793,179)	(1,328,291)	(1,490,063)	(22,555,945)
Lease liabilities	(51,858)	(42,355)	(44,755)	(145,651)	(16,038)	(16,635)	(36,793)	(17,224)	(170,946)	–	(16,750)	(20,101)	(15,305)	–	(52,472)	(646,883)
Deferred tax liabilities	–	(866)	(28,518)	(3,248)	(302)	(1,664)	(550)	–	–	(501)	(638)	–	(1,004)	–	(2,315)	(39,606)
Intragroup balances	(820,206)	–	(306,677)	388,373	–	–	–	(9,627)	–	–	–	–	–	–	3,962	(744,175)
Net assets disposed of	785,975	345,405	538,291	291,096	165,532	322,008	96,959	332,731	431,966	144,670	174,398	1,079,087	305,185	365,307	671,429	6,050,039
Gain on disposal of subsidiaries:																
Total consideration, net of transaction cost	782,294	307,898	572,003	342,796	225,560	272,864	166,584	216,330	475,983	170,387	102,300	1,249,997	267,929	213,173	486,535	5,852,633
Non-controlling interest	4,721	–	26,861	–	–	73,780	–	19,802	–	–	–	–	19,979	–	–	145,143
Fair value residual interest	9,220	25,234	–	–	–	600	–	–	–	–	–	59,181	23,655	18,834	208	136,932
Net assets disposed of	(785,975)	(345,405)	(538,291)	(291,096)	(165,532)	(322,008)	(96,959)	(332,731)	(431,966)	(144,670)	(174,398)	(1,079,087)	(305,185)	(365,307)	(671,429)	(6,050,039)
(Loss) gain on disposal	10,260	(12,273)	60,573	51,700	60,028	25,236	69,625	(96,599)	44,017	25,717	(72,098)	230,091	6,378	(133,300)	(184,686)	84,669
Net cash inflow (outflow) arising from disposal:																
Cash consideration received	762,315	307,898	572,003	342,796	225,560	272,864	166,584	154,926	429,417	170,387	55,037	1,249,997	267,929	213,173	419,128	5,610,014
Less: bank balances and cash disposed of	(48,018)	(69,003)	(29,376)	(56,063)	(4,036)	(23,047)	(11,540)	(16,712)	(86,452)	(42,445)	(16,945)	(694,173)	(73,073)	(50,659)	(78,279)	(1,299,821)
	714,297	238,895	542,627	286,733	221,524	249,817	155,044	138,214	342,965	127,942	38,092	555,824	194,856	162,514	340,849	4,310,193

43. CAPITAL MANAGEMENT

The Group manages its capital to ensure that entities in the Group will be able to continue as a going concern while maximising the return to shareholders through the optimisation of the debt and equity balance. The Group's overall strategy remains unchanged from 2021.

The capital structure of the Group consists of net debt, which mainly includes loans from related companies, bank and other borrowings, lease liabilities, notes payables, net of cash and cash equivalents, and equity attributable to owners of the Company, comprising issued share capital and reserves.

The Directors review the capital structure on a regular basis. As part of this review, the Directors consider the cost of capital and the risks associated with each class of capital. Based on recommendations of the Directors, the Group will balance its overall capital structure through the payment of dividends, new share issues and share buy-backs as well as the issue of new debts or the redemption of existing debt.

44. FINANCIAL INSTRUMENTS

44a. Categories of financial instruments

	2022 RMB'000	2021 RMB'000
Financial assets		
FVTPL:		
Mandatorily measured at FVTPL		
— Held for trading	**3,035**	1,473
— Investments at FVTPL	**960,872**	718,200
Equity instruments at FVTOCI	**2,130,776**	41,683
Financial assets at amortised cost	**32,476,232**	27,223,114
Financial liabilities		
FVTPL:		
Derivative financial instruments	**98,340**	112,759
Convertible bond to a non-controlling shareholder of a subsidiary	**72,407**	84,180
Financial liabilities at amortised cost	**36,251,572**	28,701,392

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies

Management provides services to the Group's business units, co-ordinates access to domestic and international financial markets, monitors and manages the financial risks relating to the operations of the Group through internal risk reports which analyse exposures by degree and magnitude of risks. These risks include market risk (including foreign currency risk, interest rate risk and other price risk), credit risk and liquidity risk.

Management reports periodically to the Directors who monitor risks and implemented policies to mitigate exposures.

There has been no change to the types of the Group's exposure in respect of financial instruments or the manner in which it measures and manages the risks.

Market risk

Foreign currency risk management

The Group's exposure to foreign currency risk arose from certain pledged and restricted bank deposits and bank balances, bank and other borrowings, lease liabilities, trade and other receivables and payables, amounts due from related companies, notes payables that are denominated in foreign currencies. The Group currently does not have a currency risk hedging policy. However, the management monitors foreign currency risk exposure by closely monitoring the movement of foreign currency rates and considers hedging against it should the need arise.

The carrying amounts of the Group's foreign currency denominated monetary assets and monetary liabilities at the reporting date are as follows:

	Assets		Liabilities	
	2022	2021	**2022**	2021
	RMB'000	RMB'000	**RMB'000**	RMB'000
The Group				
EUR	**64,512**	2,299	**—**	399
HK$	**755,523**	2,589,272	**31,753**	287,234
US$	**256,278**	222,203	**242,959**	3,490,380
Inter-company balances				
HK$	**11,093**	105,570	**10,870**	—
US$	**—**	657,460	**—**	469,889
JPY	**—**	—	**—**	21,495
EUR	**11,357**	—	**—**	—

The foreign currency assets in 2022 and 2021 mainly related to the HK$ and EUR denominated bank balances and US$ denominated trade and other receivables, amounts due from related companies, pledged and restricted bank and other deposits and bank balances as set out in notes 25, 27 and 29.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Market risk (Continued)

Foreign currency risk management (Continued)

The foreign currency liabilities in 2022 and 2021 mainly related to the EUR, HK$ and US$ denominated trade and other payables, bank and other borrowings, lease liabilities, and US$ denominated notes payables as set out in notes 31, 36, 37 and 38, respectively.

Foreign currency sensitivity analysis

The following sensitivity analysis details the Group's sensitivity to a 5% (2021: 5%) increase or decrease in the functional currency of the respective entities against the relevant foreign currencies. 5% (2021: 5%) is the sensitivity rate used when reporting foreign currency risk internally to management and represents management's assessment of the reasonably possible change in foreign exchange rates. The sensitivity analysis includes outstanding foreign currency denominated monetary items and adjusts their translation at the end of the reporting period for a 5% (2021: 5%) change in foreign currency rates. The sensitivity analysis also includes inter-company balances where the denomination of the balance is in a currency other than the functional currency of the lender or the borrower. Where the functional currency of the respective entities had strengthened 5% (2021: 5%) against the relevant foreign currencies, profit or loss of the respective year would be affected as follows. For a 5% (2021: 5%) weakening of the functional currency of the respective entities against the relevant foreign currency, there would be an equal and opposite impact on profit or loss for the respective year.

The Group

	EUR	**HK$**	**US$**
	RMB'000	RMB'000	RMB'000
2022			
Decrease in profit for the year	**(2,419)**	**(27,141)**	**(499)**
2021			
(Decrease)/increase in profit for the year	(71)	(86,326)	122,557

Inter-company balances

	EUR	**HK$**	**US$**	**JPY**
	RMB'000	RMB'000	RMB'000	RMB'000
2022				
Decrease in profit for the year	**(426)**	**(8)**	**—**	**—**
2021				
(Decrease)/increase in profit for the year	—	(3,959)	(7,034)	806

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Market risk (Continued)

Interest rate risk management

The Group is exposed to fair value interest rate risk in relation to fixed-rate amounts due from (to) related companies, loans from related companies, pledged and restricted bank and other deposits, bank and other borrowings, notes payables (see notes 27, 32, 33, 29, 36 and 38 for details of the above financial instruments, respectively). The Group currently has not entered into interest rate swaps to hedge against its exposure to changes in fair values of such financial assets and financial liabilities.

The Group is also exposed to cash flow interest rate risk in relation to variable-rate restricted bank deposits and bank balances and variable-rate bank borrowings (see notes 29 and 36).

The management has considered the Group's exposure to cash flow interest rate risk in relation to variable-rate pledged and restricted bank and other deposits and bank balances (see note 29) to be limited because the current market interest rates on general deposits are relatively low and stable.

It is the Group's policy to maintain an appropriate level between its fixed-rate and variable-rate borrowings so as to minimise the fair value and cash flow interest rate risk.

From continuing operations:

Interest income from financial assets that are measured at amortised cost is as follows:

	2022 **RMB'000**	2021 RMB'000 (restated)
Financial assets at amortised cost	**100,809**	61,950

Interest expense on financial liabilities not measured at FVTPL is as follows:

	2022 **RMB'000**	2021 RMB'000 (restated)
Financial liabilities at amortised cost	**235,866**	292,010

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Market risk (Continued)

Interest rate sensitivity analysis

The sensitivity analysis below has been determined based on the Group's exposure to interest rates for non-derivative instruments. The analysis is prepared assuming the financial instruments outstanding at the end of the reporting period were outstanding for the whole year. The following sensitivity analysis is used when reporting interest rate risk internally to management and represents management's assessment of the reasonably possible change in interest rates.

Variable-rate borrowings

If interest rates had been 50 basis points higher/lower on the lending benchmark interest rate stipulated by Benchmark Rate and all other variables were held constant, the Group's profit for the year ended 31 December 2022 would have decreased/increased by approximately RMB15,605,000 (2021: RMB22,314,000). This is mainly attributable to the Group's exposure to interest rates on its variable–rate borrowings. The Group's exposure to cash flow interest rate risk has increased during the current year mainly due to the increase in variable-rate borrowings. On the other hand, the Group's exposure to fair value interest rate risk has decreased during the year mainly due to the decrease in fixed-rate borrowings.

A fundamental reform of major interest rate benchmarks is being undertaken globally, including the replacement of some interbank offered rates ("IBORs") with alternative nearly risk-free rates. As at 31 December 2022, the Group has no (2021: two) LIBOR bank loans that may be subject to the interest rate benchmark reform. The Group is closely monitoring the transition to new benchmark interest rates.

Other price risk

The Group is exposed to price risk through its quoted and unquoted investments measured at FVTPL and measured at FVTOCI. The Group's equity price risk is mainly concentrated on equity instruments of entities operating in solar, and securities and financial service industries sector quoted on the Stock Exchange. In addition, the Group has monitored the price risk and will consider hedging the risk exposure should the need arise.

Other price risk sensitivity analysis

Other than sensitivity analysis of certain investments as disclosed in note 45(i), sensitivity on other investments is not provided as the amount is considered insignificant.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the Group. The Group's credit risk is primarily attributable to trade and other receivables, amounts due from related companies, contract assets, pledged and restricted bank and other deposits and bank balances.

Except for the financial guarantees given by the Group as set out below and in note 53, the Group does not provide any other guarantees which expose the Group to credit risk. The maximum exposure to credit risk in respect of these financial guarantees at the end of the reporting period is disclosed below and in note 53.

The Group does not hold any collateral or other credit enhancements to cover its credit risk associated with its financial assets and financial guarantee contracts.

Trade receivables, amounts due from related companies (trade related) and contract assets arising from contracts with customers

In order to minimise the credit risk, each major operating business has a policy of credit control in place under which credit evaluations of customers are performed on all customers requiring credit.

Credit terms are granted to customers which are either secured by bills or with letters of credit issued by banks or good credit quality customers. The management also has monitoring procedures to ensure that follow-up action is taken to recover overdue debts. In this regard, the Directors consider that the Group's credit risk is significantly reduced. In addition, the Group performs impairment assessment under ECL model on trade balances individually or collectively.

Credit risk on sales of polysilicon and wafer products is not significant as the major customers are listed entities with good repayment history, and significant portion of trade receivables are either secured by bills or with letters of credit issued by banks or advance payments from customers.

Trade receivables arising from sales of electricity are mainly due from the local grid companies in various provinces in the PRC. The management considers the probability of default of trade receivables is low by taking into the account the past default experience of the debtors, adjusted for general economic conditions of the solar industry and an assessment of both current as well as forecast direction of market conditions at the reporting date. Accordingly, the management is of the opinion that the credit risk of trade receivables is limited.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Trade receivables, amounts due from related companies (trade related) and contract assets arising from contracts with customers (Continued)

In relation to contract assets of tariff adjustment receivables, the management performs impairment assessment on a periodic basis. Based on the assessment, the management is of the opinion that the probability of default of the relevant counterparties are insignificant since the solar industry is well supported by the PRC government. In addition, management is confident that all of the Group's operating solar farms are able to be enlisted in the List in due course and the accrued revenue on tariff subsidy is fully recoverable but only subject to the timing of allocation of funds. Accordingly, the credit risk regarding contract assets of tariff adjustment receivables is limited.

For sales of polysilicon and wafer, the Group's concentration of credit risk by geographical location is mainly the PRC, which accounted for approximately 100% of the trade receivables arising from sales of polysilicon and wafer as at 31 December 2022 (2021: 70% and the remaining 30% of the trade receivables arising from sales of polysilicon and wafer were from other Asian countries).

For sales of electricity, the Group's concentration of credit risk by geographical location is mainly the PRC, which accounted for over 99% (2021: 99%) of the trade receivables arising from sales of electricity as at 31 December 2022.

As at 31 December 2022 and 2021, the Group had concentration of credit risk mainly on related companies which are known to the Group to be under common control. The gross carrying amount of amounts due from the aforesaid related companies (trade related) was approximately RMB33,331,000 (2021: RMB333,273,000).

Other receivables and amounts due from related companies (non-trade related)

The credit quality of other receivables and amounts due from related parties (non-trade related) excluding prepayments has been assessed with reference to historical information about the counterparties' past payment histories and financial position. The Directors closely monitor the credit quality of other receivables and amounts due from related companies (non-trade related) and consider those amounts, which are neither past due nor impaired, are of good credit quality in view of the good historical repayment record of such parties.

In addition, the Group performs impairment assessment under ECL model on these balances individually.

For the purpose of impairment assessment of other receivables, consideration receivables, receivables for modules procurement, amounts due from former subsidiaries and related companies (non-trade related), the loss allowance is measured at an amount equals to 12m ECL. In determining the ECL for these assets, the Directors have taken into account the financial position of the counterparties, the industries they operate, as well as their latest available operating results, in estimating the probability of default of each of these financial assets occurring within their respective loss assessment time horizon, as well as the loss upon default in each case.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Other receivables and amounts due from related companies (non-trade related) (Continued)

As at 31 December 2022 and 2021, the Group had concentration of credit risk on consideration receivables as the gross carrying amount of consideration receivables as at 31 December 2022 were approximately RMB461 million (2021: approximately RMB1,381 million). As at 31 December 2022, the Group has no other significant concentration of credit risk on the amounts due from related companies (non-trade nature) (2021: no significant concentration of credit risk on amounts due from related companies (non-trade nature)).

Pledged and restricted bank and other deposits and bank balances

The Group's exposure to credit risk arising from pledged and restricted bank and other deposits and bank balances is limited because the counterparties are reputable banks and other financial institutions with high credit ratings assigned by international credit rating agencies in the PRC, Hong Kong and the USA.

The Group assessed 12m ECL for bank balances and pledged and restricted bank and other deposits by reference to information relating to the probability of default and loss given default of the respective credit rating grades published by external credit rating agencies. Based on the average loss rates, the ECL on bank balances and pledged and restricted bank and other deposits is considered to be insignificant.

Financial guarantee contracts

For financial guarantee contracts, the maximum amount that the Group has guaranteed under the respective contracts was RMB2,571,150,000 (2021: RMB6,236,854,000) if the guarantees were called upon in their entirely, of which approximately RMB71,150,000 (2021: RMB477,000,000) and RMB2,500,000,000 (2021: RMB5,759,854,000) were provided to third parties and related parties, respectively, as at 31 December 2022. As at 31 December 2022, the guarantees provided to third parties of approximately RMB71,150,000 was given to its investments at fair values through profit or loss for certain of their bank and other borrowings in proportional to the Group's interest in those investments. The details of the financial guarantees provided to the related parties are set out in note 53. The credit risks on financial guarantee contracts is limited as either the underlying borrowings are adequately secured by assets of the relevant borrowers or the relevant borrowers are with good historical repayment record.

At the end of the reporting period, the Directors performed impairment assessments on these financial guarantee contracts, and concluded that there has been no significant increase in credit risk since their initial recognition. Loss allowance is measured at 12m ECL. In the opinion of the Directors, the fair value of the guarantees was considered insignificant at initial recognition, and the ECLs as at 31 December 2022 and 2021 were insignificant.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

The Group's internal credit risk grading assessment comprising the following categories:

Internal credit rating	Description	Trade receivables/ amounts due from related companies (trade related)/ contract assets	Other financial assets/other items
Low risk	The counterparty has a low risk of default	Lifetime ECL (not credit-impaired)	12m ECL
Medium risk	Debtor frequently repays after due dates but usually settles in full	Lifetime ECL (not credit-impaired)	12m ECL
High risk	There has been significant increase in credit risk since initial recognition through information developed internally or external resources	Lifetime ECL (not credit-impaired)	Lifetime ECL (not credit-impaired)
Loss	There is evidence indicating the asset is credit-impaired	Lifetime ECL (credit-impaired)	Lifetime ECL (credit-impaired)
Write-off	There is evidence indicating that the debtor is in severe financial difficulty and the Group has no realistic prospect of recovery	Amount is written off	Amount is written off

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

The tables below detail the credit risk exposures of the Group's financial assets, contract assets and financial guarantee contracts, which are subject to ECL assessment:

	Notes	External credit rating	Internal credit rating	12m or lifetime ECL	Gross carrying amount 2022 RMB'000	Gross carrying amount 2021 RMB'000
Financial assets at amortised costs						
Trade receivables						
— goods and services (excluding sales of electricity)	25	N/A	(Note 1,3)	Lifetime ECL not credit- impaired	507,535	276,230
		N/A	Loss (Note 1,3)	Credit-impaired	73,433	80,324
		Baa2–Aaa (2021: Baa2–Aaa)*	Low risk (Note 1,2)	Lifetime ECL	17,853,765	9,270,014
Trade receivables						
— sales of electricity	25	N/A	(Note 1,4)	Lifetime ECL not credit- impaired	398,866	1,932,025
		Baa2–Aaa (2021: Baa2–Aaa)*	Low risk (Note 1,2)	Lifetime ECL	—	49,889
Amounts due from related companies (trade related)	27	N/A	Low risk (Note 1,5)	Lifetime ECL	197,864	195,409
			Loss (Note 1,5)	Credit-impaired	34,733	324,341
Amounts due from related companies (non-trade related)	27	N/A	(Note 9)	12m ECL	567,682	385,769
Other receivables	25	N/A	(Note 7)	12m ECL	732,544	4,758,446
		N/A	(Note 8)	Lifetime ECL not credit- impaired	1,617,362	—
		N/A	Loss (Note 6)	Credit-impaired	560,663	1,454,096
Pledged and restricted bank and other deposits	29	N/A or Ba1–Aaa (2021: N/A or Ba1–Aaa)	(Note 7)	12m ECL	3,794,548	3,229,762
Bank balances	29	Ba3–Aaa (2021: Ba3–Aaa)	N/A	12m ECL	6,635,646	6,702,316
Contract assets	26	N/A	Low risk (Note 1,4)	Lifetime ECL not credit- impaired	—	41,179
Financial guarantee contracts	44(b), 53	N/A	Low risk (Note 10)	12m ECL	2,571,150	6,236,854#

* These represent credit rating grades of the relevant banks which issued the bills.

\# The amounts represent the maximum amount of the Group has guaranteed under the respective contracts.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Notes:

1. For trade receivables, amounts due from related companies (trade related) and contract assets, the Group has applied the simplified approach in IFRS 9 to measure the loss allowance at lifetime ECL. Except for debtors with significant outstanding balances, credit-impaired or to be settled by bills, the Group determines the ECL on these items collectively for debtors, grouped by internal credit rating.

2. Trade receivables with bills received from trade customers amounted to approximately RMB17,853,765,000 (2021: RMB9,319,903,000) as at 31 December 2022. The Directors consider the ECL for these trade receivables is insignificant because the bills are issued by reputable banks with high credit ratings assigned by international credit rating agencies in the PRC.

3. The following table provides information about the exposure to credit risk for trade receivables (excluding sales of electricity) which are assessed collectively as at 31 December 2022 within lifetime ECL (not credit-impaired). Debtors with internal credit rating of medium or high risk and credit-impaired with gross carrying amounts of approximately RMB23,915,000 (2021: RMB61,585,000) and RMB73,433,000 (2021: RMB80,324,000) as at 31 December 2022 were assessed individually, respectively.

Internal credit rating	**Trade receivables (excluding sales of electricity)**			
	2022		2021	
	Range of loss rate	**Gross carrying amount RMB'000**	Range of loss rate	Gross carrying amount RMB'000
Low risk	**0.5%–2.5%**	**483,620**	0.5%–2.5%	214,645
Medium risk	**10%**	**—**	10%	24,984
High risk	**25%**	**23,915**	25%	36,601
		507,535		276,230

The estimated loss rates are based on any historical observed default rates over the expected life of the debtors and are adjusted for forward-looking information (for example, the current and forecasted economic growth rates in the PRC, which reflect the general economic conditions of the industry in which the debtors operate) that is available without undue cost or effort. Such forward-looking information is used by the management of the Group to assess both the current as well as the forecast direction of conditions at the reporting date. The grouping is regularly reviewed by management to ensure relevant information about specific debtors is updated.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Notes: (Continued)

The following table shows the movement in lifetime ECL that has been recognised for trade receivables (excluding sales of electricity) under simplified approach:

Trade receivables (excluding sales of electricity)

	Lifetime ECL (not credit-impaired) RMB'000	**Lifetime ECL (credit-impaired)** RMB'000	**Total** RMB'000
At 1 January 2021	20,732	79,204	99,936
Transfer to credit-impaired	(5,653)	5,653	—
Impairment loss recognised	31,540	30,881	62,421
Impairment loss reversed	(35,031)	(35,414)	(70,445)
At 31 December 2021	11,588	80,324	91,912
Transfer to credit-impaired	(3,411)	3,411	—
Impairment loss recognised	14,678	10,960	25,638
Impairment loss reversed	(2,304)	(30,121)	(32,425)
Amounts written off as uncollectable	—	(5,616)	(5,616)
At 31 December 2022	20,551	58,958	79,509

During the year ended 31 December 2022, impairment allowance for trade receivables of approximately RMB32,428,000 (2021: RMB70,445,000) was reversed as a result of subsequent settlement from the debtors.

4. The following table provides information about the exposure to credit risk for trade receivables and contract assets in relation to its sales of electricity operation in the PRC which are assessed collectively within lifetime ECL (not credit– impaired).

	2022				2021			
	Trade receivables (sales of electricity)		**Contract assets**		Trade receivables (sales of electricity)		Contract assets	
Internal credit rating	**Average loss rate**	**Gross carrying amount RMB'000**	**Average loss rate**	**Gross carrying amount RMB'000**	Average loss rate	Gross carrying amount RMB'000	Average loss rate	Gross carrying amount RMB'000
Low risk	**—**	**398,866**	**—**	**—**	0.15%	1,932,025	0.59%	41,179

The Group always measures the loss allowance for trade receivables for sales of electricity and contract assets, including those with significant financing component at an amount equal to lifetime ECL. The estimated loss rates are based on historical observed default rates over the expected life of the debtors and are adjusted for forward-looking information that is available without undue cost or effort. During the year ended 31 December 2022, no reversal of impairment loss or impairment loss on trade receivables and contract assets were recognised in continuing operations by the Group. As at 31 December 2021, the loss allowance for trade receivables for sales of electricity of RMB2,892,000 and contract assets of RMB238,000 were recognised by GNE Group. Upon the completion of Distribution in Specie of the shares of GNE (see note 14) during the year ended 31 December 2022, GNE becomes an associate of the Group and the loss allowance for trade receivable and contract assets of GNE Group are included in the Group's interest in GNE.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Notes: (Continued)

5. For amounts due from related companies (trade related), debtors with significant balances with gross carrying amounts of approximately RMB232,597,000 (2021: RMB519,750,000) as at 31 December 2022 were assessed individually, in which the Directors considered the receivables of gross carrying amount of approximately RMB34,733,000 (2021: RMB324,341,000) from related companies were credit-impaired because there was a default of payment from the counterparty. An accumulated impairment loss of RMB11,530,000 (2021: RMB305,751,000) was recognised as at 31 December 2022 for such receivables. During the year ended 31 December 2022, the Group has recognised a reversal of impairment loss on amounts due from related companies (trade related) of approximately RMB294,221,000 as a result of settlement of debts from related companies (2021: impairment loss of RMB24,171,000). Credit risk of the remaining amounts due from related companies (trade related) is considered as limited because the related companies are with good repayment history and with positive operating results/cashflows.

Amounts due from related companies (trade related)

	Lifetime ECL (credit-impaired) RMB'000
At 1 January 2021	281,580
Impairment loss recognised	24,171
At 31 December 2021 and 1 January 2022	305,751
Reversal of impairment	(294,221)
At 31 December 2022	11,530

6. The following table shows movement in ECL that has been recognised for other receivables.

	Lifetime ECL (credit-impaired)		
	Consideration receivables RMB'000	**Other receivables** RMB'000	**Total** RMB'000
At 1 January 2021	280,000	460,754	740,754
Impairment loss recognised	247,460	87,679	335,139
At 31 December 2021 and 1 January 2022	527,460	548,433	1,075,893
(Reversal of impairment)/Impairment loss recognised	66,152	(999)	65,153
Amounts written-off	(356,308)	—	(356,308)
Derecognition upon Distribution in Specie	—	(377,368)	(377,368)
At 31 December 2022	237,304	170,066	407,370

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Notes: (Continued)

6. (Continued)

(i) For consideration receivables, in 2021, the Directors considered the consideration receivable from the disposal of a former subsidiary with a gross carrying amount of approximately RMB506,000,000 was credit-impaired because there were defaults of payments from the counterparty since 2019. Such consideration receivable was assessed for ECL individually. A further impairment loss of approximately RMB151,308,000 was recognised and which was mainly attributable to the increase in loss given default of the counterparty. As at 31 December 2022, the accumulated impairment loss on the above consideration receivable was RMB431,308,000. During the year ended 31 December 2022, the Group signed an agreement with the counterparty pursuant to which the counterparty agreed to repay RMB150,000,000 to settle the above consideration receivable and the Group received the repayment during 2022. As a result, a reversal of impairment loss of RMB75,000,000 was recognised and the related remaining ECL of RMB356,308,000 was written off during the year ended 31 December 2022.

The Group disposed of its entire equity interest in an associate to an independent third party at a consideration of approximately RMB727,879,000 and received the consideration of RMB346,730,000 up to 31 December 2022. The Directors consider the consideration receivables from the disposal of a former associate with a gross carrying amount of RMB381,149,000 (2021: RMB381,149,000) as at 31 December 2022 was credit-impaired because there were defaults of payments from the counterparty. Such consideration receivables was assessed for ECL individually. An impairment loss of approximately RMB141,152,000 (2021: RMB:96,152,000) was recognised for the year ended 31 December 2022.

(ii) During the year ended 31 December 2022, changes in the loss allowance for other receivables of the Group are mainly due to derecognition upon Distribution in Specie and the net impairment of consideration receivable disclosed in (i) above. During the year ended 31 December 2021, the change in the loss allowance for other receivables of the Group is mainly due to other receivables with gross carrying amounts of RMB485,797,000 defaulted and transferred to credit-impaired.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Notes: (Continued)

7. For purposes of internal credit risk management, the Group uses past due information to assess whether credit risk has increased significantly since initial recognition.

   As at 31 December 2022 and 2021, the balance of other receivables and pledged deposits was not past due and the internal credit rating was considered as low risk. These are measured at 12m ECL (not credit-impaired), except for other receivables as mentioned in note 1 above. Therefore, the ECL of balances of other receivables and pledged deposits was considered to be insignificant.

8 In relation to the short-term loan to a third party, the management is of the opinion that the probability of default of the relevant counterparty is insignificant since the ultimate controlling party of the third party is the PRC government. The Directors assessed the probability of default of the short-term loan by taking into the account the financial position of the borrower and perform assessment of both current as well as forecast direction of market conditions at the reporting date. The Directors closely monitor the credit quality of the short-term loan and consider those amounts, which are neither past due nor impaired. Accordingly, the management is of the opinion that the credit risk of the short term loan is limited and the ECL of the balance was considered insignificant.

9. As at 31 December 2022, amounts due from related companies (non-trade related) mainly represents amounts due from associates of approximately RMB529,715,000 (2021: RMB358,792,000) and were not past due. The Directors assessed and considered the ECL by reference to the historical payment pattern, financial position of the related parties and aging period of the balances. The ECL of these balances was considered to be insignificant.

10. For financial guarantee contracts, the gross carrying amount represents the maximum amount that the Group has guaranteed under the relevant contracts. The Directors assessed and considered the ECL for the financial guarantee contracts is insignificant.

Liquidity risk

In the management of the liquidity risk, the Group monitors and maintains a level of cash and cash equivalents deemed adequate by the management to finance the Group's operations and mitigate the effects of fluctuations in cash flows. The management monitors the utilisation of bank borrowings to ensure unutilised banking facilities are adequate and ensures compliance with loan covenants or to obtain waiver from the relevant banks if the Group is not able to satisfy any of the covenant requirements.

The Group's current assets exceeded its current liabilities by approximately RMB3,252 million as at 31 December 2022 (2021: 5,598 million). Further, the Group had cash and cash equivalents of RMB6,536 million (2021: RMB6,702 million) with total borrowings due within one year amounted to RMB9,524 million (2021: RMB5,839 million).

The Group finances its capital intensive operations by short-term and long-term bank and other borrowings and shareholders' equity.

The following tables detail the Group's remaining contractual maturity for its non-derivative financial liabilities and the Group's liquidity analysis for its derivative financial instruments. The tables have been drawn up based on the undiscounted cash flows of financial liabilities based on the earliest dates on which the Group can be required to pay. The maturity dates for other non-derivative financial liabilities are based on the contractual repayment dates.

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Liquidity risk (Continued)

The tables include both interest and principal cash flows. To the extent that interest are at floating rate, the undiscounted amount is derived from interest rate at the end of the reporting period.

Liquidity and interest risk tables

	Weighted average interest rate %	On demand or within 1 year RMB'000	1–2 years RMB'000	2–5 years RMB'000	Over 5 years RMB'000	Total undiscounted cash flows RMB'000	Carrying amount RMB'000
At 31 December 2022							
Non-derivative financial liabilities							
Trade and other payables	—	19,084,319	—	—	—	19,084,319	19,084,319
Amounts due to related companies	—	3,496,364	—	—	—	3,496,364	3,496,364
Bank and other borrowings							
— fixed-rate	0.56%	8,726,031	283,619	179,788	—	9,189,438	9,064,554
— variable-rate	4.02%	967,885	2,233,535	967,371	187,720	4,356,511	4,161,300
Written put options to non-controlling interests	10%	293,952	—	—	—	293,952	293,952
Lease liabilities	5.84%	110,345	23,673	15,773	9,857	159,648	151,083
Sub-total		32,678,896	2,540,827	1,162,932	197,577	36,580,232	36,251,572
Derivative financial instrument							
Put options classified as derivative financial instruments (note 39)	—	98,340	—	—	—	98,340	98,340
Convertible bond to a non-controlling shareholder of a subsidiary	4.75%	24,500	32,646	—	—	57,146	72,407
		32,801,736	2,573,473	1,162,932	197,577	36,735,718	36,422,319
Financial guarantee contracts (Note below)	—	2,571,150	—	—	—	2,571,150	—

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Liquidity risk (Continued)

Liquidity and interest risk tables (Continued)

	Weighted average interest rate %	On demand or within 1 year RMB'000	1–2 years RMB'000	2–5 years RMB'000	Over 5 years RMB'000	Total undiscounted cash flows RMB'000	Carrying amount RMB'000
At 31 December 2021							
Non-derivative financial liabilities							
Trade and other payables	—	13,441,685	—	—	—	13,441,685	13,441,685
Amounts due to related companies	—	2,744,019	—	—	—	2,744,019	2,744,019
Loans from related companies	5.26%	34,027	—	—	—	34,027	32,325
Bank and other borrowings							
— fixed-rate	2.37%	1,798,909	755,097	148,307	149,543	2,851,856	2,632,535
— variable-rate	5.04%	3,415,453	1,089,566	1,153,469	658,151	6,316,639	5,950,341
Notes payables	10%	538,239	1,076,478	1,812,187	—	3,426,904	3,115,367
Lease liabilities	6%	351,592	159,810	109,786	340,693	961,881	785,120
Sub-total		22,323,924	3,080,951	3,223,749	1,148,387	29,777,011	28,701,392
Derivative financial instruments							
Put options classified as derivative financial instruments (note 39)	—	112,759	—	—	—	112,759	112,759
Convertible bonds to non-controlling shareholders of a subsidiary	4.75	24,500	30,319	—	—	54,819	84,180
		22,461,183	3,111,270	3,223,749	1,148,387	29,944,589	28,898,331
Financial guarantee contracts (Note below)	—	6,236,854	—	—	—	6,236,854	—

44. FINANCIAL INSTRUMENTS (Continued)

44b. Financial risk management objectives and policies (Continued)

Liquidity risk (Continued)

Liquidity and interest risk tables (Continued)

The amounts included above for variable-rate borrowings are subject to change if changes in variable interest rates differ to those estimates of interest rates determined at the end of the reporting period.

As at 31 December 2022, the Group has no bank and other borrowings that are repayable on demand due to breach of loan covenants.

As at 31 December 2021, the bank and other borrowings that are repayable on demand due to breach of loan covenants which the cross default clauses in several banks of the GNE Group had been triggered as a result of the GNE Group's involvement in certain litigation cases relating to claims by relevant claimants exceeded the limit of litigation amounts stipulated in the financial covenants of certain borrowings, as disclosed in note 36, are included in the "on demand or within 1 year" time band in the above maturity analysis. As at 31 December 2021, the aggregate carrying amount of these bank and other borrowings that were repayable on demand due to breach of loan covenants amounted to RMB213,125,000. GNE Group has not received any request from any borrowers to accelerate the repayments of bank and other borrowings as a result of breach of financial covenants mentioned above. GNE Group is actively pursuing additional financing including, but not limited to, equity financing from issuance of new shares, extension of payment date for bank and other borrowings that are due for maturity and divesting certain of its existing solar farm projects in exchange for cash proceeds.

The following table details the Group's aggregate principal and interest cash outflows based on scheduled repayments dates set out in the loan agreements for bank and other borrowings that became repayable on demand due to the aforesaid breach of loan covenants as at 31 December 2021. To the extent that interest flows are at variable rate, the undiscounted amount is derived from the weighted average interest rate at the end of the reporting period.

	Weighted average effective interest rate %	Less than 1 year RMB'000	1–2 years RMB'000	2–5 years RMB'000	Over 5 years RMB'000	Total undiscounted cash flow RMB'000	Carrying amount RMB'000
As at 31 December 2021	5.41	130,346	22,853	77,478	8,309	238,986	213,125

Note:

The amounts included above for financial guarantee contracts are the maximum amounts the Group could be required to settle under the arrangements for the full guaranteed amounts if that amounts are claimed by the counterparties to the guarantees. Based on expectations at the end of the reporting period, the Group considers that it is more likely than not that no amount will be payable under the arrangements. However, this estimate is subject to change depending on the probability of the counterparties claiming under the guarantees which is the likelihood that the financial receivables held by the counterparties which are guaranteed suffer credit losses.

45. FAIR VALUE MEASUREMENTS

(i) Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis

Some of the Group's financial assets and financial liabilities are measured at fair value at the end of each reporting period. The following table gives information about how the fair values of these financial assets and financial liabilities are determined (in particular, the valuation techniques and inputs used).

Financial assets/financial liabilities	Fair value as at 2022 RMB'000	Fair value as at 2021 RMB'000	Fair value hierarchy	Valuation techniques and key inputs	Significant unobservable inputs	Relationship of significant unobservable inputs to fair value
1) Listed equity securities classified as held for trading investments	3,035	1,473	Level 1	Quoted bid price in an active market.	N/A	N/A
2) Listed equity investments measured at FVTOCI	30,309	41,683	Level 1	Quoted bid price in an active market.	N/A	N/A
3) Unlisted equity investments measured at FVTPL	466,909	6,910	Level 3	Market comparison approach and fair value was determined with reference to recent transaction price.	Adjusted market price between comparables and the underlying property held by the unlisted equity investments.	An increase in the price per square meter used would result in an increase in fair value measurement of the underlying property, and vice versa.
	46,289	41,916	Level 3	Adjusted net assets value	Net assets value	An increase in the net assets value would result in an increase in fair value and vice versa
	—	43,714	Level 2	Quoted prices from recent transaction price	N/A	N/A
4) Unlisted investments measured at financial assets at FVTPL	193,829	203,870	Level 3	Adjusted net assets value	Net assets value	An increase in the net assets value would result in an increase in fair value and vice versa
	253,845	421,790	Level 2	Quoted price from third party financial institutions and determined with reference to the value of underlying investments which mainly composed of listed shares and bonds.	N/A	N/A
5) Put option of interest in Jiangsu Xinhua classified as derivative financial instruments (Note a)	12,014	17,247	Level 3	Binomial Option Pricing Model.	Expected volatility of 44.3% (2021: 68.2%)	The higher the expected volatility, the higher the fair value.
					Risk free rate 2.21% (2021: 2.314%)	The higher the risk free rate, the lower the fair value.
					Probability to exercise of 20% (2021:10%)	The higher the probability to exercise, the higher the fair value.

45. FAIR VALUE MEASUREMENTS (Continued)

(i) Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis (Continued)

Financial assets/financial liabilities	Fair value as at 2022 RMB'000	Fair value as at 2021 RMB'000	Fair value hierarchy	Valuation techniques and key inputs	Significant unobservable inputs	Relationship of significant unobservable inputs to fair value
6) Put option of interest in Mongolia Zhonghuan GCL classified as derivative financial instrument (note b)	86,326	77,489	Level 3	Binomial Option Pricing Model	Expected volatility of 54.96% to 55.87% (2021: 55.1% to 57.1%) Risk free rate of 2.09% to 2.32% (2021: 2.57% to 2.7% respectively) Probability to exercise of 20% (2021: 20%)	The higher of expected volatility, the higher of fair value. The higher of risk free rate, the lower of fair value. The higher the probability to exercise, the higher of fair value.
7) Convertible bond to a non-controlling shareholder of a subsidiary (note c)	72,407	84,180	Level 3	Binomial Option Pricing Model	Expected volatility of 55.43% (2021: 68.38% to 74.88%) Risk free rate of 2% (2021: 2.30% to 2.49% respectively). Probability to exercise of 100% (2021: 95%)	The higher of expected volatility, the higher of fair value. The higher of risk free rate, the lower of fair value. The higher the probability to exercise, the higher of fair value.
8) Perpetual note classified as financial assets at FVTOCI included in interests in associates (note d)	2,100,467	—	Level 3	Modified discounted cash flow method, the key inputs are equity volatility, and discount rate.	Equity volatility of 48.4%, risk free rate of 3.32% and discount rate 12.33% (2021: N/A)	The higher the equity volatility, the lower fair value. The higher of discount rate, the lower of fair value.

Notes:

(a) If the expected volatility of the underlying shares was 5% higher/lower while all the other variables were held constant, the loss on change in fair value of the derivative financial instruments would increase by approximately RMB249,000/decrease by approximately RMB249,000 for the year ended 31 December 2022 (2021: RMB851,000 and RMB582,000 respectively).

If the risk free rate used was multiplied by 5% higher/lower while all the other variables were held constant, the loss on change in fair value of the derivative financial instruments would decrease by approximately RMB5,000/increase by approximately RMB5,000 for the year ended 31 December 2022 (2021: RMB31,000 and RMB31,000 respectively).

If the probability used was 30% higher/10% lower while all the other variables were held constant, the loss on change in fair value of the derivative financial instruments would increase by approximately RMB1,801,000/decrease by approximately RMB600,000 for the year ended 31 December 2022 (2021: RMB51,602,000 and RMB17,201,000, respectively).

45. FAIR VALUE MEASUREMENTS (Continued)

(i) Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis (Continued)

Notes: (Continued)

(b) If the expected volatility of the underlying shares was 5% higher/lower while all the other variables were held constant, the loss on change in fair value of the derivative financial instrument would increase by approximately RMB18,965,000/decrease by approximately RMB16,631,000 for the year ended 31 December 2022 (2021: RMB12,192,000 and RMB12,159,000, respectively).

If the risk free rate used was multiplied by 5% higher/lower while all the other variables were held constant, the loss on change in fair value of the derivative financial instrument would decrease by approximately RMB527,000/increase by approximately RMB531,000 for the year ended 31 December 2022 (2021: RMB748,000 and RMB755,000, respectively).

If the probability used was 30% higher/20% lower while all the other variables were held constant, the loss on change in fair value of the derivative financial instruments would increase by approximately RMB34,472,000/decrease by approximately RMB22,981,000 for the year ended 31 December 2022 (2021: RMB21,936,000 and RMB14,624,000, respectively).

(c) If the expected volatility of the underlying shares was 5% higher/lower while all the other variables were held constant, the gain on change in fair value of the convertible bonds payables would decrease by approximately RMB914,000/increase by approximately RMB917,000 for the year ended 31 December 2022 (2021: RMB581,000 and RMB582,000, respectively).

If the risk free rate used was multiplied by 5% higher/lower while all the other variables were held constant, the gain on change in fair value of the convertible bonds payables would increase by approximately RMB1,000/decrease by approximately RMB1,000 for the year ended 31 December 2022 (2021: RMB20,000 and RMB21,000, respectively).

If the probability used was 5% higher/30% lower while all the other variables were held constant, the gain on change in fair value of the convertible bonds payables would be nil change/increase by approximately RMB21,722,000 for the year ended 31 December 2022 (2021: RMB108,000 and RMB650,000, respectively).

(d) If the equity volatility of the underlying shares was multiplied by 10% higher/lower while all the other variables were held constant, the gain on change in fair value of the investments in equity instruments at FVTOCI would decrease by approximately RMB62,505,000/increase by approximately RMB57,187,000 for the year ended 31 December 2022 (2021: N/A).

If the discount rate used was multiplied by 10% higher/lower while all the other variables were held constant, the gain on change in fair value of the investments in equity instruments at FVTOCI would decrease by approximately RMB118,656,000/increase by approximately RMB143,634,000 for the year ended 31 December 2022 (2021: N/A).

Other than an unlisted equity investments measured at financial assets at FVTPL which was transferred from level 2 to level 3 during the years ended 31 December 2021, there is no transfer among the different levels of the fair value hierarchy for the years ended 31 December 2022 and 2021.

45. FAIR VALUE MEASUREMENTS (Continued)

(i) Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis (Continued)

The Directors consider that the carrying amounts of financial assets and financial liabilities and associated interest receivables and interest payables recorded at amortised cost in the consolidated financial statements approximate their fair values.

Included in other expenses, gains and losses set out in note 9B, a net loss of RMB72,489,000 is related to financial assets and financial liabilities measured at FVTPL held during 31 December 2022 (2021: a net loss of RMB109,521,000).

Fair value hierarchy as at 31 December 2022

	Level 1 RMB'000	Level 2 RMB'000	Level 3 RMB'000	Total RMB'000
Financial assets at FVTPL				
Listed equity securities classified as held for trading investments	3,035	—	—	3,035
Investments at FVTPL	—	253,845	707,027	960,872
Equity instruments at FVTOCI	30,309	—	—	30,309
Perpetual notes classified as equity instrument at FVTOCI included in interests in associates	—	—	2,100,467	2,100,467
Total	33,344	253,845	2,807,494	3,094,683
Financial liabilities				
Put options classified as derivative financial instruments	—	—	98,340	98,340
Convertible bond to a non-controlling shareholder of a subsidiary	—	—	72,407	72,407
Total	—	—	170,747	170,747

45. FAIR VALUE MEASUREMENTS (Continued)

(i) Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis (Continued)

Fair value hierarchy as at 31 December 2021

	Level 1 RMB'000	Level 2 RMB'000	Level 3 RMB'000	Total RMB'000
Financial assets at FVTPL				
Listed equity securities classified as held for trading investments	1,473	—	—	1,473
Investments at FVTPL	—	465,504	252,696	718,200
Equity instruments at FVTOCI	41,683	—	—	41,683
Total	43,156	465,504	252,696	761,356
Financial liabilities				
Put options classified as derivative financial instruments	—	—	112,759	112,759
Convertible bond to a non-controlling shareholder of a subsidiary	—	—	84,180	84,180
Total	—	—	196,939	196,939

(ii) Reconciliation of Level 3 fair value measurements

31 December 2022

	Put options classified as derivative financial instruments RMB'000	Unlisted investments/ equity instruments measured at FVTPL RMB'000	Convertible bond to a non-controlling shareholder of a subsidiary RMB'000	Perpetual note at financial assets as FVTOCI RMB'000	Total RMB'000
Opening balance	(112,759)	252,696	(84,180)	—	55,757
Initial recognition upon Distribution in Specie	—	—	—	2,024,879	2,024,879
(Loss) gain in profit or loss	(3,604)	(5,669)	11,773	—	2,500
Gain in other comprehensive income	—	—	—	75,588	75,588
Derecognition	18,023	—	—	—	18,023
Initial recognition	—	460,000	—	—	460,000
Closing balance	(98,340)	707,027	(72,407)	2,100,467	2,636,747

45. FAIR VALUE MEASUREMENTS (Continued)

(ii) Reconciliation of Level 3 fair value measurements (Continued)

31 December 2021

	Put options classified as derivative financial instruments RMB'000	Unlisted investments/ equity instruments measured at FVTPL RMB'000	Convertible bond to a non-controlling shareholder of a subsidiary RMB'000	Total RMB'000
Opening balance	(60,561)	285,631	(49,000)	176,070
Loss in profit or loss	(20,566)	(37,850)	(35,180)	(93,596)
Disposal of investment	—	(30,721)	—	(30,721)
Transfer from Level 2	—	35,636	—	35,636
Initial recognition	(31,632)	—	—	(31,632)
Closing balance	(112,759)	252,696	(84,180)	55,757

Of the total losses for the year included in profit or loss, total gain of RMB2,500,000 (2021: total loss of RMB93,596,000) related to put options classified as derivative financial instruments, unlisted investments/equity instruments measured at FVTPL, and convertible bond to a non-controlling shareholder of a subsidiary held at the end of the reporting period which fair value gains or losses were included in other expense, gains and losses, net.

Fair value measurements and valuation processes

In estimating the fair value of an asset or a liability, the Group uses market-observable data to the extent they are available. Where Level 1 inputs are not available, the Group adopts valuation techniques disclosed in note 45(i) or engages third party qualified valuers to perform the valuation of the put options classified as derivative financial instruments, unlisted investments measured at FVTPL, unlisted equity investments measured at FVTPL and convertible bond to a non-controlling shareholder of a subsidiary and the perpetual notes classified as financial assets at FVTOCI. The Directors work closely with the qualified valuers to establish appropriate valuation techniques and inputs to the model. The management of the Group reports the findings to the Directors every half year to explain the cause of fluctuations in the fair value of the assets and liabilities.

Information about the valuation techniques and inputs used in determining the fair value of various assets and liabilities are disclosed above.

46. TRANSFERS OF FINANCIAL ASSETS

During the current year, the Group endorsed certain bills received from customers for the settlement of payables for the purchase of plant and machinery, construction costs and trade and other payables; and discounted certain bills received by the Group to banks for financing.

The following were bills received by the Group as at 31 December 2022 and 2021 that were discounted to banks or endorsed to creditors, respectively, on a full recourse basis. As the Group has not transferred the significant risks and rewards relating to these bills, it continues to recognise the full carrying amount of trade receivables and recognised the cash received on the transfer as secured borrowings or the amounts outstanding with the creditors remain to be recognised as trade and other payables. These financial assets are carried at amortised cost in the Group's consolidated statement of financial position.

At 31 December 2022

	Bills discounted to banks with full recourse RMB'000	Bills endorsed to creditors with full recourse RMB'000	Total RMB'000
Carrying amount of transferred assets	**7,414,485**	**8,866,248**	**16,280,733**
Carrying amount of associated liabilities	**(7,414,485)**	**(8,866,248)**	**(16,280,733)**
Net position	**—**	**—**	**—**

At 31 December 2021

	Bills discounted to banks with full recourse RMB'000	Bills endorsed to creditors with full recourse RMB'000	Total RMB'000
Carrying amount of transferred assets	651,321	6,691,685	7,343,006
Carrying amount of associated liabilities	(651,321)	(6,691,685)	(7,343,006)
Net position	—	—	—

The Directors consider that the carrying amounts of the endorsed and discounted bills approximate their fair values.

The finance costs recognised for bills discounted to banks were included in interest on bank and other borrowings (note 8).

47. COMMITMENTS AND LIABILITIES

(i) Commitments

	2022 RMB'000	2021 RMB'000
Capital commitments		
Capital expenditure in respect of acquisitions of property, plant and equipment contracted for but not provided for	**10,224,751**	8,846,821
Other commitments		
Commitment to contribute share capital to investments in joint ventures, associates and/or other investments contracted for but not provided for	**166,000**	900,000
Commitment to contribute share capital to financial assets at FVTPL contracted for but not provided for	**60,000**	60,000
	10,450,751	9,806,821

(ii) Contingent liabilities

Except for the financial guarantee contracts provided by the Group as disclosed in note 53 and a guarantee provided to third party of approximately RMB71,150,000 was given to its investments at fair values through profit or loss for certain of their bank the other borrowings in proportional to the Group's interest in those investment, the Group had no any other material contingent liability as at 31 December 2022 and 2021.

48. PLEDGE OF OR RESTRICTIONS ON ASSETS

Pledge of assets

At the end of the reporting period, the Group had pledged the following assets to secure credit facilities of the Group:

	2022 RMB'000	2021 RMB'000
Bank and other borrowings secured by:		
Pledged and restricted bank and other deposits (included pledged and restricted bank and other deposits classified as held for sale)	339,074	717,480
Right-of-use assets	523,870	562,908
Investment properties	378,493	56,494
Property, plant and equipment	3,172,688	7,604,712
Trade receivables and contract assets	7,713,924	2,485,850
	12,128,049	11,427,444
Lease liabilities secured by:		
Pledged and restricted bank and other deposits	—	113,400
Total	12,128,049	11,540,844

Certain subsidiaries pledged their fee collection rights in relation to the sales of electricity. As at 31 December 2022, trade receivables and contract assets in respect of such fee collection rights pledged amounted to approximately RMB299,439,000 (2021: RMB1,842,685,000).

As at 31 December 2022, the Group had no pledged property, plant and equipment and right-of-use assets (2021: approximately RMB65,421,000 and RMB125,538,000, respectively), to secure bank and other borrowings of an associate and a joint venture of the Group.

In addition to the pledged assets above, there are property, plant and equipment of approximately RMB Nil (2021: RMB47,514,000), the right-of-use assets of approximately RMB Nil (2021: RMB10,830,000), restricted bank deposits of approximately RMB3,455,535,000 (2021: RMB2,398,882,000) and trade receivables of approximately RMB465,163,000 (2021: RMB752,791,000) which had been pledged to secure the issuance of bills and short-term letters of credit for trade and other payables.

Restrictions on assets

In addition, lease liabilities of approximately RMB151,083,000 (2021: RMB785,120,000) were recognised against related right-of-use assets of approximately RMB142,274,000 (2021: RMB1,393,920,000) as at 31 December 2022. The lease agreements do not impose any covenants other than the security interests in the leased assets that are held by the lessors. Leased assets may not be used as security for borrowing purposes.

49. SHARE-BASED PAYMENT TRANSACTIONS

49a. The Company

(I) Equity-settled share option scheme

On 22 October 2007, a Share Option Scheme ("2007 Share Option Scheme") was adopted by the Company pursuant to the resolution of the sole shareholder. Under the schemes, the Company may grant options to directors, employees of the Company and its subsidiaries and qualifying grantees to subscribe for shares of the Company. Options granted are exercisable during the period after the respective vesting date to the last day of the ten-year period after the grant date. Upon expiry of the 2007 Share Option Scheme, no further options could be granted or offered but the provisions of this scheme shall remain in full force for the granted share options and remained outstanding.

The total number of shares in respect of which options may be granted under the 2007 Share Option Scheme are not permitted to exceed 10% of the shares of the Company in issue at any point in time, without prior approval from the Company's shareholders. The number of shares issued and to be issued in respect of which options granted and may be granted to any individual in any one year is not permitted to exceed 1% of the shares of the Company in issue at any point in time, without prior approval from the Company's shareholders.

The exercise price is determined by the Directors and will not be less than the higher of (i) the closing price of the Company's shares on the date of grant; (ii) the average closing price of the shares of the Company for the five business days immediately preceding the date of grant; and (iii) the nominal value of the Company's share.

Pursuant to the terms of the Share Option Scheme, the exercise price and number of share options were being adjusted as a result of the determination of entitlements to a rights issue of the Company on 26 January 2016. Details of the adjustments are disclosed in the announcement of the Company on 26 January 2016.

At 31 December 2022, the number of shares in respect of which options had been granted and remained outstanding under the 2007 Share Option Scheme was 44,832,763 (2021: 55,126,458) shares, representing 0.17% (2021: 0.2%) of the issued share capital of the Company at that date.

On 1 April 2022, a new share option scheme ("2022 Share Option Scheme") was adopted by the Company pursuant to the resolution of the shareholders of the Company and the 2022 Share Option Scheme shall be valid and effective for a period of 10 years commencing on 1 April 2022. Under the 2022 Share Option Scheme, the Company may grant options to directors, employees of the Company and its subsidiaries and qualifying grantees to subscribe for shares of the Company. Options granted under 2022 Share Option Scheme can only be exercised according to the following vesting schedule upon the following anniversaries of the grant dates of the options: up to 20% of the shares issuable under the option upon the first anniversary; 40% upon the second anniversary; 60% upon the third anniversary; 80% upon the fourth anniversary and 100% upon the fifth anniversary.

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49a. The Company (Continued)

(I) Equity-settled share option scheme (Continued)

The total number of shares in respect of which options may be granted under the 2022 Share Option Scheme and any other share option schemes of the Company are not permitted to exceed 10% of the shares of the Company as at the date on which the 2022 Share Option Scheme is adopted. The number of shares issued and to be issued in respect of which options granted and may be granted to any individual in any one year is not permitted to exceed 1% of the shares of the Company in issue at any point in time, without prior approval from the Company's shareholders.

The exercise price is determined by the Directors and will not be less than the higher of (i) the closing price of the Company's shares on the date of grant; (ii) the average closing price of the shares of the Company for the five business days immediately preceding the date of grant; and (iii) the nominal value of the Company's share.

As 31 December 2022, no shares in respect of which options has been granted and remained outstanding under 2022 Share Option Scheme.

Movements of share options granted during the year are as follows:

(i) 2007 Share Option Scheme

2022

	Exercise price	Date of grant	Exercisable period	Number of shares issuable under options Outstanding at 1 January 2022	During the year Exercised (Note 1)	Forfeited	Outstanding at 31 December 2022
Directors	HK$1.160	19.02.2016	15.03.2016 to 18.02.2026	4,230,113	(2,517,924)	—	1,712,189
	HK$1.324	29.03.2016	18.04.2016 to 28.03.2026	7,944,454	—	—	7,944,454
Employees and others	HK$1.630	05.07.2013	16.09.2013 to 04.07.2023	5,025,330	(523,374)	—	4,501,956
	HK$2.867	24.03.2014	26.05.2014 to 23.03.2024	2,618,642	—	—	2,618,642
	HK$1.160	19.02.2016	15.03.2016 to 18.02.2026	31,279,239	(5,841,925)	(806,170)	24,631,144
	HK$1.324	29.03.2016	18.04.2016 to 28.03.2026	4,028,680	(604,302)	—	3,424,378
				55,126,458	(9,487,525)	(806,170)	44,832,763
Exercisable at 1 January 2022/ 31 December 2022				55,126,458			44,832,763
Weighted average exercise price (HK$)				1.32	1.20	1.16	1.35

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49a. The Company (Continued)

(I) Equity-settled share option scheme (Continued)

(i) 2007 Share Option Scheme (Continued)

2021

	Exercise price	Date of grant	Exercisable period	Number of shares issuable under options: Outstanding at 1 January 2021	Transfer (Note 2)	During the year: Exercised (Note 1)	During the year: Forfeited	During the year: Expired	Outstanding at 31 December 2021
Directors	HK$1.160	19.02.2016	15.03.2016 to 18.02.2026	5,942,302	(1,712,189)	–	–	–	4,230,113
	HK$1.324	29.03.2016	18.04.2016 to 28.03.2026	7,944,454	–	–	–	–	7,944,454
Employees and others	HK$3.296	12.01.2011	01.03.2011 to 11.01.2021	5,035,850	–	–	–	(5,035,850)	–
	HK$4.071	15.07.2011	01.09.2011 to 14.07.2021	4,834,415	–	–	–	(4,834,415)	–
	HK$1.630	05.07.2013	16.09.2013 to 04.07.2023	14,080,237	–	(5,465,902)	(3,589,005)	–	5,025,330
	HK$2.867	24.03.2014	26.05.2014 to 23.03.2024	21,352,004	–	–	(18,733,362)	–	2,618,642
	HK$1.160	19.02.2016	15.03.2016 to 18.02.2026	60,500,031	1,712,189	(12,518,339)	(18,414,642)	–	31,279,239
	HK$1.324	29.03.2016	18.04.2016 to 28.03.2026	4,028,680	–	–	–	–	4,028,680
				123,717,973	–	(17,984,241)	(40,737,009)	(9,870,265)	55,126,458
Exercisable at 1 January 2021/ 31 December 2021				123,717,973	–				55,126,458
Weighted average exercise price (HK$)				1.72	–	1.30	1.99	3.68	1.32

Notes:

1. In respect of the share options exercised during the year, the weighted average share price at the dates of exercise was HK$3.55 (2021: HK$2.56).

2. Mr. Jiang Wenwu resigned as a director of the Company in June 2021. The Board appreciates his services for the Company in the past few years. The Board decides the entitlement of share option shall remain unchanged.

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49a. The Company (Continued)

(II) Equity-settled share award scheme

Share award scheme

The Company adopted a share award scheme (the "Scheme") on the Adoption Date for a duration of the later of (i) the 10th anniversary of the Adoption Date, and (ii) such date that all awards outstanding are fully vested, settled, lapsed, forfeited or cancelled. The purpose of the Scheme is, through the grant of the share awards to certain of the Directors and employees ("Eligible Persons") of the Group, to effectively attract, retain and incentivise core employees of the Group and align their interests and growth with the Group as a whole.

The Company has entered into a trust deed with the Trustee for the purpose of facilitating the purchase, holding and sale of shares in the Group for the benefit of the Eligible Persons of the Group. The maximum number of shares that can be held by the Trustee under the Scheme is limited to 2% of the issued share capital of the Company from time to time. All the shares purchased by the Group through the Trustee on the Stock Exchange are recorded as shares held for the share award scheme in the Group's reserves and are for the Scheme only.

The board of the directors of the Company (the "Board") may, from time to time, at its absolute discretion, select any Eligible Persons to participate in the Scheme as grantees ("Award Grantees"), subject to the terms and conditions set out in the rule of the Scheme. In determining the Award Grantees, the Board shall take into consideration matters including, but without limitation, the present and expected contribution of the relevant Award Grantees to the Group. An Award Grantee may be granted an award by the Company during the award period which will vest over a period of time and on such other conditions to be determined by the Board in its absolute discretion.

During the year ended 31 December 2022, board of directors of the Company has resolved to award an aggregate of 290,830,000 award shares (the "2022 Award Shares") at a grant price of HK$0.86 per award share to directors and employees of the Group pursuant to the terms and conditions of the Scheme.

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49a. The Company (Continued)

(II) Equity-settled share award scheme (Continued)

Share award scheme (Continued)

Subject to the satisfaction of the vesting conditions of the 2022 Award Shares, the Trustee will transfer the 2022 Award Shares to the grantees within one month from the date of vesting notice.

The vesting of the 2022 Award Shares is subject to the satisfaction of the vesting conditions including certain corporate and personal performance and other service conditions.

Under certain circumstances, all unvested 2022 Award Shares and all vested 2022 Award Shares (but not yet transferred to the grantees) shall lapse immediately, and the grantees shall also, at the request of the Company, return the equivalent cash of the difference (or part of the difference) between (i) the share price of the Company at the date of exercise of the 2022 Award Shares vested and transferred to the grantees under the rules of the Scheme and (ii) the exercise price, within a certain period of time.

The Board may from time to time while the Scheme is in force and subject to all applicable laws, determine such vesting criteria and conditions or periods for the award to be vested thereunder. Details of the Scheme are set out in the announcement of the Company dated 16 January 2017. For the purpose of the Scheme, the Company purchased its own ordinary shares through the Trustee as follows:

Month of purchase	**Number of ordinary shares**	**Aggregate consideration paid**	**Equivalent aggregate consideration paid**
		HK$'000	RMB'000
May 2017	182,998,888	163,258	141,692
June 2017	40,000,000	32,729	28,405
June 2018	100,000,000	81,385	66,532
At 1 January 2021, 31 December 2021 and 1 January 2022	322,998,888	277,372	236,629
September 2022	200,000,000	497,141	436,440
October 2022	1,500,000	3,359	3,038
At 31 December 2022	524,498,888	777,872	676,107

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49a. The Company (Continued)

(II) Equity-settled share award scheme (Continued)

Share award scheme (Continued)

Movements in the number of award shares granted under the Share Award Scheme during the year and their related weighted average fair values are as follows:

2022

	Exercise price	Date of grant	Vesting period	Number of shares issuable under share award scheme		
				Outstanding at 1 January 2022	Granted during the year	Outstanding at 31 December 2022
Directors	HK$0.86	16.02.2022	16.02.2022 to 15.02.2023	—	1,878,000	1,878,000
			16.02.2022 to 15.02.2024	—	1,878,000	1,878,000
			16.02.2022 to 15.02.2025	—	1,878,000	1,878,000
			16.02.2022 to 15.02.2026	—	1,878,000	1,878,000
			16.02.2022 to 15.02.2027	—	1,878,000	1,878,000
	HK$0.86	06.07.2022	06.07.2022 to 05.07.2023	—	4,180,000	4,180,000
			06.07.2022 to 05.07.2024	—	4,180,000	4,180,000
			06.07.2022 to 05.07.2025	—	4,180,000	4,180,000
			06.07.2022 to 05.07.2026	—	4,180,000	4,180,000
			06.07.2022 to 05.07.2027	—	4,180,000	4,180,000
Employee and others	HK$0.86	16.02.2022	16.02.2022 to 15.02.2023	—	40,982,000	40,982,000
			16.02.2022 to 15.02.2024	—	40,982,000	40,982,000
			16.02.2022 to 15.02.2025	—	40,982,000	40,982,000
			16.02.2022 to 15.02.2026	—	40,982,000	40,982,000
			16.02.2022 to 15.02.2027	—	40,982,000	40,982,000
	HK$0.86	06.07.2022	06.07.2022 to 05.07.2023	—	11,126,000	11,126,000
			06.07.2022 to 05.07.2024	—	11,126,000	11,126,000
			06.07.2022 to 05.07.2025	—	11,126,000	11,126,000
			06.07.2022 to 05.07.2026	—	11,126,000	11,126,000
			06.07.2022 to 05.07.2027	—	11,126,000	11,126,000
				—	290,830,000	290,830,000
Exercisable at 1 January 2022/ 31 December 2022				—		—
Weighted average exercise price (HK$)				N/A	0.86	0.86

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49a. The Company (Continued)

(II) Equity-settled share award scheme (Continued)

Share award scheme (Continued)

The weighted average grant date fair value per unit for award shares at 31 December 2022 was RMB1.87.

For award shares outstanding at the end of the reporting period, the exercise price was HK$0.86 per share.

The fair value of award shares granted during the year ended 31 December 2022 was estimated as at the date of grant, using a binomial model, taking into account the terms and conditions upon which the award shares were granted. The following table lists the inputs to the model used:

	Award shares granted on 16 February 2022					Award shares granted on 6 July 2022				
Maturity date	Tranche 1 9 March 2023	Tranche 2 9 March 2024	Tranche 3 9 March 2025	Tranche 4 9 March 2026	Tranche 5 9 March 2027	Tranche 1 27 July 2023	Tranche 2 27 July 2024	Tranche 3 27 July 2025	Tranche 4 27 July 2026	Tranche 5 27 July 2027
Fair value per award share as at the grant date	HK$1.76	HK$1.92	HK$1.97	HK$2.00	HK$2.02	HK$2.98	HK$3.13	HK$3.19	HK$3.23	HK$3.27
Expected volatility	97.38%	102.87%	90.39%	82.50%	76.52%	82.77%	99.10%	90.54%	83.54%	78.08%
Expected dividend yield	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Share price	2.52	2.52	2.52	2.52	2.52	3.8	3.8	3.8	3.8	3.8
Exercise price	HK$0.86	HK$0.86	HK$0.86	HK$0.86	HK$0.86	HK$0.86	HK$0.86	HK$0.86	HK$0.86	HK$0.86
Risk-free interest rate	0.47%	0.86%	1.25%	1.42%	1.60%	2.08%	2.18%	2.29%	2.33%	2.38%
Award share life	1	2	3	4	5	1	2	3	4	5

The expected volatility is based on the historic volatility (calculated based on the expected life of the award share), adjusted for any expected changes to future volatility based on publicly available information. Expected dividends were based on historical dividends. Changes in the subjective input assumptions could materially affect the fair value estimate.

During the year ended 31 December 2022, share-based payment expenses in respect of the 2022 Award Shares of RMB185,068,000 (2021: nil) have been recognised in profit or loss. The award shares outstanding at 31 December 2022 had a weighted average remaining contractual life of 2.29 years.

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49b. Share option plan of GNE

Equity-settled share option scheme

GNE's new share option scheme was adopted pursuant to a resolution passed on 15 October 2014 ("New Share Option Scheme") for the primary purpose of providing incentives to the directors of GNE and eligible employees. Under the New Share Option Scheme, the board of directors of GNE may grant options to eligible employees, including the directors of GNE, to subscribe for shares in GNE. Additionally, GNE may, from time to time, grant share options to independent third parties for settlement in respect of goods or services provided to GNE.

On 26 February 2021 and 3 November 2021, the GNE granted 370,516,250 and 60,500,000 share options (before adjustment of Share consolidation) to the employees and directors under the New Share Option Scheme respectively. Each share option entitles the holder to subscribe for one share of HK$0.00416 and HK$0.00416 of the GNE at an exercise price (before adjustment of Share consolidation) of HK$0.384 and HK$0.357 respectively. The contractual life of these share options is the period from the date on which an option certificate is issued after acceptance by the grantees and expiring on 25 February 2031 and 2 November 2031 respectively. Further details are set out in the GNE's announcement dated 26 February 2021 and 3 November 2021 respectively.

The following table discloses the terms and conditions of the grants are as follows, whereby all options (before adjustment of Share consolidation) are settled by physical delivery of shares:

	Number of options	Vesting conditions	Contractual life of options
Options granted to directors of GNE:			
24 July 2015	8,052,800	Exercisable in five even tranches immediately from 24 July of each year from 2015 to 2019	Expire at the close of business on 23 July 2025
3 November 2021	60,500,000	Exercisable in four even tranches immediately from 3 November of each year from 2022 to 2025	Expire at the close of business on 2 November 2031
Options granted to employees:			
23 October 2014	52,343,000	Exercisable in five even tranches immediately from 24 November of each year from 2014 to 2018	Expire at the close of business on 22 October 2024
24 July 2015	73,511,998	Exercisable in five even tranches immediately from 24 July of each year from 2015 to 2019	Expire at the close of business on 23 July 2025
26 February 2021	370,516,250	Exercisable in four even tranches immediately from 26 February of each year from 2022 to 2025	Expire at the close of business on 25 February 2031

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49b. Share option plan of GNE (Continued)

Equity-settled share option scheme (Continued)

The options outstanding at 31 December 2021 had a weighted average remaining contractual life of 8.23 years.

The fair value of services received in return for share options granted during the year ended 31 December 2021 is measured by reference to the fair value of share options granted. The estimate of the fair value of the share options granted was measured based on the Binomial Option pricing model for share options granted on 23 October 2014, 26 February 2021 and 3 November 2021, while based on the Monte Carlo mode for share options granted on 24 July 2015. The contractual life of the share option and expectations of early exercise were incorporated into the respective models.

	Granted on 26 February 2021	**Granted on 3 November 2021**
Fair value of and assumptions for share options		
Fair value at measurement date	HK$0.12	HK$0.12
Share price	HK$0.375	HK$0.330
Exercise price	HK$0.384	HK$0.357
Expected volatility	64.71%	63.42%
Expected option life	10 years	10 years
Expected dividends	0%	0%
Risk-free interest rate (based on Exchange Fund Notes)	1.43%	1.50%

The expected volatility is based on the historic volatility (calculated based on the life of the share options), adjusted for any expected changes to future volatility based on publicly available information. Expected dividends were based on historical dividends. Changes in the subjective input assumptions could materially affect the fair value estimate.

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49b. Share option plan of GNE (Continued)

Equity-settled share option scheme (Continued)

At 31 December 2021, the number of shares which had been granted under the New Share Option Scheme and remained outstanding was approximately 545,321,748 shares, representing 2.6% of the issued share capital of GNE at that date. The maximum number of shares which may be issued upon exercise of all options to be granted under the New Share Option Scheme shall not in aggregate exceed 10% of the shares of GNE in issue at the date of approval of the New Share Option Scheme. The maximum entitlement for any one participant is that the total number of shares issued or to be issued upon exercise of the options granted to each participant in any twelve-month period shall not exceed 1% of the total number of shares in issue.

The exercise price is determined by the directors of GNE, and will not be less than the higher of (i) the closing price of GNE's shares on the date of grant, (ii) the average closing price of GNE's shares for the five business days immediately preceding the date of grant; and (iii) the nominal value of GNE's share.

The following table discloses movements of GNE's share options:

2022

					Number of shares issuable under options				
	Exercise price	Adjusted exercise price	Date of grant	Exercisable period	Outstanding at 1 January 2022	Outstanding at 1 January 2022 Adjusted for share consolidation	Forfeited during the year	Impact of Distribution in Specie	Outstanding at 31 December 2022
Directors of GNE	HK$0.357	HK$7.14	3.11.2021	3.11.2021 to 2.11.2031	60,500,000	3,025,000	(100,000)	(63,425,000)	—
Former director (Note)	HK$0.606	HK$12.12	24.07.2015	24.07.2015 to 23.07.2025	8,052,800	402,640	—	(8,455,440)	—
Employees and others providing similar services	HK$1.1798	HK$23.596	23.10.2014	24.11.2014 to 22.10.2024	52,343,200	2,617,157	(201,320)	(54,759,037)	—
	HK$0.606	HK$12.12	24.07.2015	24.07.2015 to 23.07.2025	73,511,998	3,675,596	(226,485)	(76,961,109)	—
	HK$0.384	HK$7.68	26.02.2021	26.02.2021 to 25.02.2031	350,913,750	17,545,686	(1,563,000)	(366,896,436)	—
					545,321,748	27,266,079	(2,090,805)	(570,497,022)	—
Exercisable at 1 January 2021/ 31 December 2021					52,343,200	2,617,160			—
Weighted average exercise price (HK$)					0.4906	9.8119	9.6677	9.8124	—

Note: While Mr. Sha Hongqiu retired from office as a non-executive Director with effect from the conclusion of the annual general meeting of the Company held on 17 June 2020, his share options remain exercisable under the New Share Option Scheme.

49. SHARE-BASED PAYMENT TRANSACTIONS (Continued)

49b. Share option plan of GNE (Continued)

Equity-settled share option scheme (Continued)

2021

	Exercise price	Date of grant	Exercisable period	Outstanding at 1 January 2021	Granted during the year	Forfeited during the year	Outstanding at 31 December 2021
				Number of shares issuable under options			
Directors of GNE	HK$1.1798	23.10.2014	24.11.2014 to 22.10.2024	58,382,800	—	(58,382,800)	—
	HK$0.606	24.07.2015	24.07.2015 to 23.07.2025	24,460,380	—	(16,407,580)	8,052,800
	HK$0.357	3.11.2021	3.11.2021 to 2.11.2031	—	60,500,000	—	60,500,000
Employees and others providing similar services	HK$1.1798	23.10.2014	24.11.2014 to 22.10.2024	194,797,232	—	(142,454,032)	52,343,200
	HK$0.606	24.07.2015	24.07.2015 to 23.07.2025	164,790,486	—	(91,278,488)	73,511,998
	HK$0.384	26.02.2021	26.02.2021 to 25.02.2031	—	370,516,250	(19,602,500)	350,913,750
				442,430,898	431,616,250	(328,125,400)	545,321,748
Exercisable at 1 January 2021/ 31 December 2021				253,180,032			52,343,200
Weighted average exercise price (HK$)				0.9344	0.3802	0.9439	0.4906

During the current year, share-based payment expense of RMB12,841,000 (2021: RMB20,718,000) had been recognized in profit or loss in discontinued operation in respect of equity-settled share option scheme. During the year ended 31 December 2021, certain share options granted to directors of GNE and employees were forfeited after the vesting period, approximately RMB62,129,000 was transferred to the Group's accumulated profits from non-controlling interests.

At each reporting date, the Group revises its estimates of the number of options that are expected to ultimately vest. The impact of the revision of the estimates, if any, is recognised in profit or loss, with a corresponding adjustment to the share options reserve.

50. RECONCILIATION OF LIABILITIES ARISING FROM FINANCING ACTIVITIES

The table below details changes in the Group's liabilities arising from financing activities, including both cash and non-cash changes. Liabilities arising from financing activities are those for which cash flow were, or future cash flows will be, classified in the Group's consolidated statement of cash flows as cash flows from financing activities.

	Dividend payables RMB'000 (note 31)	Interest payables RMB'000 (note 31)	Amounts due to related companies (non-trade) RMB'000 (note 32)	Loans from related companies RMB'000 (note 33)	Bank and other borrowings RMB'000 (note 36)	Lease liabilities RMB'000 (notes 37)	Notes payables RMB'000 (note 38)	Other financial liabilities RMB'000 (note 39)	Total RMB'000
At 1 January 2021	237,381	217,802	1,873,859	908,508	36,236,665	1,890,139	3,312,863	—	44,677,217
Financing cash flows	(289,582)	(10,361)	615,284	(918,106)	(5,034,141)	(591,603)	(213,559)	—	(6,442,068)
Exchange realignment	—	(2,364)	—	—	(54,042)	—	(74,569)	–	(130,975)
Finance costs	—	—	—	41,923	1,466,418	71,070	323,731	—	1,903,142
Interest capitalised (note 8)	—	—	—	—	5,513	—	—	—	5,513
Dividends declared to non-controlling interests	83,922	—	—	—	—	—	—	—	83,922
Disposal of subsidiaries	—	(202,132)	—	—	(20,843,079)	(595,025)	—	—	(21,640,236)
New leases entered	—	—	—	—	—	59,544	—	—	59,544
Lease terminated	—	—	—	—	—	(39,393)	—	—	(39,393)
Reclassify to interest payable from notes payables	—	233,099	—	—	—	—	(233,099)	—	—
Transfer to liabilities associated with assets classified as held-for-sale	—	—	—	—	(454,680)	(9,612)	—	—	(464,292)
Non-cash settlement of discounted bills	—	—	—	—	(2,739,778)	—	—	—	(2,739,778)
At 31 December 2021	31,721	236,044	2,489,143	32,325	8,582,876	785,120	3,115,367	—	15,272,596
Financing cash flows	(6,000)	(262,256)	770,162	(21,954)	8,679,656	(420,658)	(701,025)	—	8,037,925
Exchange realignment	—	(5,351)	—	—	65,223	13,491	274,201	—	347,564
Finance costs (note 8)	—	—	—	4,440	442,427	29,892	185,085	15,859	677,703
Interest capitalised (note 8)	—	—	—	—	10,913	—	—	—	10,913
Initial recognition	—	—	—	—	—	—	—	278,093	278,093
Recognition upon disposal of subsidiaries	—	—	22,310	—	—	—	—	—	22,310
Dividends declared to non-controlling interests	6,780	—	—	—	—	—	—	—	6,780
Disposal of subsidiaries	—	—	—	—	(98,000)	(22,198)	—	—	(120,198)
New leases entered	—	—	—	—	—	119,700	—	—	119,700
Lease terminated	—	—	—	—	—	(76,609)	—	—	(76,609)
Reclassify to interest payable from notes payable	—	185,085	—	—	—	—	(185,085)	—	—
Non-cash settlement of discounted bills	—	—	—	—	(2,284,466)	—	—	—	(2,284,466)
Derecognition upon Distribution in Specie	(32,501)	(57,787)	(5,174)	(14,811)	(2,172,775)	(277,655)	(2,688,543)	—	(5,249,246)
At 31 December 2022	—	95,735	3,276,441	—	13,225,854	151,083	—	293,952	17,043,065

Note: The cash flows from dividends payables, interest payables, amounts due to related companies (non-trade), loans from related companies, bank and other borrowings, lease liabilities, notes payables and other financial liabilities make up the net amount of proceeds and repayments in the consolidated statement of cash flows.

51. EVENTS AFTER REPORTING PERIOD

During the year ended 31 December 2022, 31,625,000 ordinary shares of the Company were repurchased by the Group at an aggregate consideration of approximately RMB 57,971,000 which were recognised in equity as treasury shares. All of the treasury shares were subsequently cancelled in January 2023.

Apart from the above, there were no significant event after the end of the reporting period that are required to be disclosed in these consolidated financial statements.

52. RETIREMENT BENEFITS SCHEMES

(a) The PRC

The Group's full-time employees in the PRC are covered by a government sponsored defined contribution pension scheme, and are entitled to a monthly pension from their retirement dates. The PRC Government is responsible for the pension liability to these retired employees. The Group is required to make annual contributions to the retirement plan at a rate of 20% (2021: 20%) of employees' salaries, which are charged to profit or loss as an expense when the contributions are due. During the year ended 31 December 2022 and 2021, subject to the discretions of respective municipal government in the PRC, certain retirement benefit concession were given due to COVID-19.

(b) Hong Kong

The Group participates in a pension scheme, which was registered under the Mandatory Provident Fund Schemes Ordinance (the "MPF Ordinance"), for all its employees in Hong Kong. The scheme is a defined contribution scheme and is funded by contributions from employers and employees according to the provisions of the MPF Ordinance.

(c) The USA

In 2015, GNE established a 401(k) savings trust plan ("401(k) Plan"), a defined contribution plan and is funded by employers and employees in the USA that qualifies as an Inland Revenue Service ("IRS") deferred salary arrangement under Section 401(k) of the US Internal Revenue Code. Under the 401(k) Plan, participating employees may elect to contribute up to a maximum amount subject to certain IRS limitations.

(d) Japan

GNE Group participates in an employee's pension fund for all its employees in Japan. The scheme is a defined contribution scheme and is funded by contribution from employers and employees according to Employee's Pension Insurance Act.

During the year ended 31 December 2022, total amounts contributed by the Group to the schemes in the PRC, Hong Kong, the USA and Japan and charged to profit or loss for continuing operations, which represent contributions payable to the schemes by the Group at rates specified in the rules of the schemes, are approximately RMB131,457,000 (2021: RMB91,762,000).

53. RELATED PARTY DISCLOSURES

Other than as disclosed elsewhere in the consolidated financial statements, during the year, the Group entered into the following material transactions with related parties:

	2022 RMB'000	2021 RMB'000
Transactions with companies in which Mr. Zhu Gongshan and his family have control:		
Rental income	**20,292**	18,491
Management fee income	**8,453**	5,720
Consultancy service fee expense	**(7,660)**	(11,123)
Interest expense	**(2,608)**	(41,923)
Management fee expense	**(460)**	(9,884)
Purchase of steam	—	(2,110)
Purchase of energy service	**(1,148)**	(1,110)
Purchase of equipment	**(284)**	(5,892)
Rental expense	**(5,287)**	—
Purchase of coal	**(130,413)**	—
Donation expenses	**(7,000)**	—
Transactions with joint ventures:		
Sales of other raw materials	—	256,793
Rental income	—	2,671
Management fee income	—	136,376
Purchase of polysilicon	—	(112,077)
Purchase of water	—	(172)
Fund management expense	**(1,736)**	—

53. RELATED PARTY DISCLOSURES (Continued)

	2022 RMB'000	2021 RMB'000
Transactions with associates:		
Sales of other raw materials	401,610	152,679
Interest income	244	—
Management fee income	171,830	15,239
Rental Income	6,655	—
Service fee income	6,130	—
Interest expense	(1,970)	—
Purchase of polysilicon	(799,686)	(664,923)
Purchase of silicon rods	(4,182,352)	(3,459,011)
Purchase of other raw materials	—	(158,855)
Purchase of equipment	(24,204)	—
Electricity fee expenses	(1,933)	—
Management fee expense	(3,742)	—
Consultancy service fee expense	(2,523)	—
Purchase of water	(177)	—
Transactions with other related parties (Note a):		
Sales of polysilicon	2,820,296	1,397,108
Service income	715	—
Repair and maintenance expense	(680)	—
Sales of other raw material	574	—
Processing fee income	317,585	199,766
Purchase of equipment	(1,446)	(34,100)
Purchase of other raw materials	(29,558)	(11,376)
Purchase of steam	(4,236)	(1,347)

Note a: The other related parties represent the noncontrolling interest shareholders of subsidiaries of the Company.

53. RELATED PARTY DISCLOSURES (Continued)

At 31 December 2022, the Group provided total guarantees of approximately RMB2,500,000,000 and RMB nil (2021: RMB3,319,000,000 and RMB900,000,000) to several banks and financial institutions in respect of banking and other facilities of Xinjiang GCL and Jiangsu Xinhua, respectively. The Directors consider that the fair value of the guarantees at the date of inception, and the ECL as at 31 December 2022 and 2021 was insignificant.

As at 31 December 2021, GNE Group provided guarantee to its associates, including Shanxi GNE, Ruicheng GCL, Yu County Jinyang, Yu County GCL, Fenxi GCL, Hanneng Guanping and Hebei GNE and their subsidiaries, for certain of their bank and other borrowings with maximum amount of RMB1,540,854,000. These bank and other borrowings were secured by the borrowers' (i) property, plant and equipment, (ii) trade receivables, contract assets and fee collection right in relation to sales of electricity. In the opinion of the directors of GNE, the fair value of the guarantee was considered insignificant at initial recognition and the ECL as at 31 December 2021 were insignificant.

As at 31 December 2022, the companies in which Mr. Zhu Gongshan and his family have control provided guarantee to the Group for certain of the Group's bank and other borrowings with maximum amount of RMB250,000,000 (2021: RMB810,000,000).

No material guarantee fee income and expense charged from/to related parties was incurred during the year ended 31 December 2022 (2021: nil).

Details of balances and other arrangements with related parties are disclosed in the consolidated statement of financial position and notes 27, 32 and 33.

* English name for identification only

54. MAJOR NON-CASH TRANSACTIONS

Apart from those disclosed elsewhere in this consolidated financial statement of the Group, the Group has the below major non-cash transactions.

Year ended 31 December 2021

(i) The GNE Group entered into two equity transfer agreements with 神木市晶元控股集團有限公司 Shenmu Jingyuan Group Holdings Limited* ("Shenmu Jingyuan") to acquire 20% equity interest in each of Shenmu Jingpu and Shenmu Jingfu at considerations of RMB53,280,000 and RMB15,080,000 respectively. The consideration payables had been offset with the balance due from Shenmu Jingyuan.

(ii) Short-term borrowings/advances drawn on discounted bills with recourse of approximately RMB2,739,778,000 have been settled through bills discounted to the relevant financial institutions.

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES

55a. General information of subsidiaries

Details of the Group's material subsidiaries at the end of the reporting period are set out below.

Name of subsidiary	Place of establishment/ operations	Particulars of issued share capital/ paid-up capital	Attributable effective interest held by the Company 2022 %	2021 %	Principal activities
Directly held:					
Incorporated in the Cayman Islands					
Universe Solar Energy Holdings Inc. 環宇光伏電力控股有限公司	Cayman Islands/ Hong Kong	US$10,500	100	100	Investment holding
Incorporated in the BVI					
Elite Time 傑泰環球有限公司	BVI/Hong Kong	US$1	100	100	Investment holding
Indirectly held:					
Solar material business ***Established in the PRC***					
Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd*[5] 江蘇中能硅業科技發展有限公司	PRC	RMB10,493,623,834	100	100	Manufacture and sale of polysilicon
江蘇協鑫硅材料科技發展有限公司 Jiangsu GCL Silicon Material Technology Development Co., Ltd.*[5]	PRC	RMB3,099,650,000	100	100	Manufacture and sale of ingot and wafer
高佳太陽能股份有限公司 Konca Solar Cell Co., Ltd.*[5]	PRC	RMB1,184,570,000	70.19	70.19	Manufacture and sale of ingot and wafer
常州協鑫光伏科技有限公司 Changzhou GCL Photovoltaic Technology Co., Ltd.*[5]	PRC	RMB324,978,274	100	100	Manufacture and sale of wafer
蘇州協鑫光伏科技有限公司 Suzhou GCL Photovoltaic Technology Co., Ltd.*[5]	PRC	RMB990,298,120	100	100	Manufacture and sale of wafer
GCL-Poly (Suzhou) New Energy Co., Ltd*[5] 保利協鑫 (蘇州) 新能源有限公司	PRC	RMB4,940,000,000	100	100	Investment holding and trading of wafer
河南協鑫光伏科技有限公司 Henan GCL Photo voltaic Technology Co., Ltd.*[5]	PRC	RMB373,500,000	100	100	Manufacture and sale of ingot
協鑫 (南京) 太陽能科技有限公司 GCL (Nanjing) Solar Energy Technology Co., Ltd.*[5]	PRC	RMB250,000,000	100	100	Manufacture and trading of solar cell and module

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55a. General information of subsidiaries (Continued)

Name of subsidiary	Place of establishment/ operations	Particulars of issued share capital/ paid-up capital	Attributable effective interest held by the Company 2022 %	2021 %	Principal activities
Indirectly held: (Continued)					
Solar material business (Continued) ***Established in the PRC (Continued)***					
太倉協鑫光伏科技有限公司 Taicang GCL Photovoltaic Technology Co., Ltd.*5	PRC	RMB811,247,369	100	100	Manufacture and sale of wafer
阜寧協鑫光伏科技有限公司 Funing GCL Photovoltaic Technology Co., Ltd.*5	PRC	RMB312,621,612	100	100	Manufacture and sale of solar products
寧夏協鑫晶體科技發展有限公司 Ningxia GCL Monocrystalline Silicon Technology Development Co., Ltd.*5	PRC	RMB$282,800,000	100	100	Manufacture and sale of solar products
揚州協鑫光伏科技有限公司 Yangzhou GCL Photovoltaic Technology Company Limited*5	PRC	RMB$514,678,595	100	100	Manufacture and sale of wafer
蘇州協鑫科技發展有限公司 Suzhou GCL Technology Development Co., Ltd.*5	PRC	RMB900,000,000	100	100	Manufacture and sale of wafer
保利協鑫硅材料 (太倉) 有限公司 GCL-Poly Silicon Material (Taicang) Co., Ltd.*5	PRC	RMB210,783,252	100	100	Trading of solar products
Kunshan GCL Optoelectronic Material Co., Ltd*5 昆山協鑫光電材料有限公司	PRC	RMB73,576,773	51.52	50.03	Research and development, manufacture and sale of perovskite solar cells technology
內蒙古鑫元硅材料科技有限公司 Inner Mongolia Xin Yuan Silicon Material Technology Co., Ltd.* ("Inner Mongolia Xin Yuan")5	PRC	RMB3,767,500,000	56.77	67.76	Manufacture and sale of polysilicon
樂山協鑫新能源科技有限公司 Leshan GCL New Energy Technology Co., Ltd.* ("Leshan GCL")4,5	PRC	RMB2,250,000,000	44.44	61.21	Manufacture and sale of polysilicon
Incorporated in Hong Kong					
GCL Solar Energy Technology Holdings Limited 協鑫光伏電力科技控股有限公司	Hong Kong	HK$1	100	100	Investment holding
Richmore International Development Limited 富多國際發展有限公司	Hong Kong	HK$1	100	100	Investment holding
Corner Star Limited 各星有限公司	Hong Kong	HK$1	100	100	Own a technical know-how

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55a. General information of subsidiaries (Continued)

Name of subsidiary	Place of establishment/ operations	Particulars of issued share capital/ paid-up capital	Attributable effective interest held by the Company 2022 %	2021 %	Principal activities
Indirectly held: (Continued)					
Solar farm business					
Established in the PRC					
保利協鑫 (桑日) 光伏電力有限公司 GCL-Poly (Sangri) Solar Power Co., Ltd.*5	PRC	RMB62,000,000	100	100	Operation of solar farm
徐州協鑫光伏電力有限公司 Xuzhou GCL Solar Energy Co., Ltd.*5	PRC	RMB84,000,000	100	100	Operation of solar farm
江蘇國能新能源科技有限公司 Jiangsu Guoneng Solar Technology Co., Ltd.*5	PRC	RMB10,000,000	100	100	Operation of solar farm
蘇州保利協鑫光伏電力投資有限公司 Suzhou GCL-Poly Solar Energy Investment Ltd.*5	PRC	RMB422,000,000	100	100	Investment holding
大同縣協鑫光伏電力有限公司 Datong Xian GCL Solar Energy Co., Ltd.*5	PRC	RMB144,600,000	100	100	Operation of solar farm
大同縣鑫能光伏電力有限公司 Datong Xian Xinneng Solar Energy Co., Ltd.*5	PRC	RMB32,600,000	100	100	Operation of solar farm
Incorporated in Hong Kong					
GCL Solar Energy Limited	Hong Kong	HK$1	100	100	Investment holding
Incorporated in the USA					
GCL Solar Energy. Inc.	USA	US$200	100	100	Construction and sale of solar farm projects
Incorporated in Luxembourg					
Berimor Investments S.a.r.l.	Luxembourg/ Hong Kong	EUR12,500	100	100	Investment holding

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55a. General information of subsidiaries (Continued)

Name of subsidiary	Place of establishment/ operations	Particulars of issued share capital/ paid-up capital	Attributable effective interest held by the Company 2022 %	2021 %	Principal activities
Indirectly held: (Continued)					
New energy business					
Incorporated in Bermuda					
GNE[1]	Bermuda/ Hong Kong	HK$87,794,000	N/A	49.24[2]	Investment holding
Established in the PRC					
高唐縣協鑫晶輝光伏有限公司 Gaotang County GCL Jing Hui Photovoltaic Co., Ltd.*[1, 5]	PRC	RMB81,000,000	N/A	49.24	Operation of solar power plant
猛海協鑫光伏農業電力有限公司 Menghai GCL Solar Agricultural Power Co., Ltd.*[1, 5]	PRC	RMB85,000,000	N/A	49.24	Operation of solar power plant
內蒙古香島新能源發展有限公司 Inner Mongolia Xiangdao New Energy Development Company Limited*[1, 5]	PRC	RMB273,600,000	N/A	44.37	Operation of solar power plant
微山鑫能光伏電力有限公司 Weishan Xin Neng Solar Power Co., Ltd.*[1, 5]	PRC	RMB75,000,000	N/A	49.24	Operation of solar power plant
河南協鑫新能源投資有限公司 Henan GCL New Energy Investment Co., Ltd.*[1, 5]	PRC	RMB600,000,000	N/A	49.24	Operation of solar power plant
江蘇協鑫新能源有限公司 Jiangsu GCL New Energy Co., Ltd.*[1, 5]	PRC	RMB500,000,000	N/A	49.24	Operation of solar power plant
西安協鑫新能源管理有限公司 Xi'an GCL New Energy Management Co., Ltd.*[1, 5]	PRC	RMB1,500,000,000	N/A	49.24	Operation of solar power plant
安徽協鑫新能源投資有限公司 Anhui GCL New Energy Investment Co., Ltd.*[1, 5]	PRC	RMB238,000,000	N/A	49.24	Operation of solar power plant
內蒙古協鑫光伏電力有限公司 Inner Mongolia GCL Photovoltaic Electric Power Co., Ltd.*[1, 5]	PRC	RMB200,000,000	N/A	49.24	Operation of solar power plant

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55a. General information of subsidiaries (Continued)

Name of subsidiary	Place of establishment/ operations	Particulars of issued share capital/ paid-up capital	Attributable effective interest held by the Company		Principal activities
			2022 %	2021 %	
Indirectly held: (Continued)					
New energy business (Continued)					
Established in the PRC (Continued)					
山東萬海電力有限公司 Shandong Wanhai Solar Power Co., Ltd* ("Wanhai")[1, 5]	PRC	RMB60,000,000	N/A	49.24	Operation of solar power plant
寧夏協鑫新能源投資有限公司 Ningxia GCL New Energy Investment Co., Ltd.*[1, 5]	PRC	RMB200,000,000	N/A	49.24	Operation of solar power plant
江蘇協鑫新能源投資有限公司 Jiangsu GCL New Energy Investment Co., Ltd.*[1,5]	PRC	RMB100,000,000	N/A	49.24	Operation of solar power plant
寧夏盛景太陽能科技有限公司 Ningxia Shengjing Solar Power Technology Company Limited*[1, 5]	PRC	RMB75,000,000	N/A	49.24	Operation of solar power plant
高郵協鑫光伏電力有限公司 Gaoyou GCL Photovoltaic Power Company Limited*[1, 5]	PRC	RMB48,120,000	N/A	49.24	Operation of solar power plant
寧夏鑫墾簡泉光伏電力有限公司 Ningxia Xin Ken Jiangquan Photovoltaic Power Company Limited*[1, 5]	PRC	RMB7,000,000	N/A	49.24	Operation of solar power plant
青海協鑫新能源有限公司 Qinghai GCL New Energy Company Limited*[1, 5]	PRC	RMB149,480,000	N/A	49.24	Investment holding

* English name for identification only

1 Upon the completion of Distribution on species (see note 14), the controlling stake of the entity was disposed of by the Group during the year ended 31 December 2022 which then becomes an indirect associate of the Group.

2 During the year ended 31 December 2021, Elite Time's shareholding of GNE shares was reduced from 57.75% to 49.24%, details of which are disclosed in note 42(B) (i)(a) under the heading "Deemed disposal of partial interest in a subsidiary". In the opinion of the Directors of the Company, the Group is able to exercise control over GNE as at 31 December 2021 as the remaining shareholdings are widely dispersed.

3 These subsidiaries were disposed of during the year ended 31 December 2022.

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55a. General information of subsidiaries (Continued)

4 Despite the Group indirectly holds less than 50% of the effective equity interest of Leshan GCL, the Group is able to exercise control over the Leshan GCL by having entered into an acting in concert agreement with the non-controlling shareholders ("Acting in Concert Agreement"). Pursuant to the Acting in Concert Agreement, when dealing with affairs related to Leshan GCL requiring consideration and approval by shareholders at general meetings, the non-controlling shareholders shall vote in accordance with the instruction of the Group, except: (i) any connected transactions between the Group and Leshan GCL; or (ii) any matter that obviously harms the interest of Leshan GCL or the non-controlling shareholders.

5 Domestic PRC Companies

The above table lists the subsidiaries of the Group which, in the opinion of the Directors, principally affected the results or assets of the Group. To give details of other subsidiaries would, in the opinion of the Directors, result in particulars of excessive length.

Other than the convertible bond to a non-controlling shareholder of a subsidiary as disclosed in note 31, none of the subsidiaries had issued any debt securities as at 31 December 2022 (2021: Other than convertible bond to a non-controlling shareholder of a subsidiary and notes payables as disclosed in notes 31 and 38, respectively, none of the subsidiaries had issued any debt securities as at 31 December 2021).

55b. Details of non-wholly-owned subsidiaries that have material non-controlling interests

The table below shows details of non-wholly-owned subsidiaries of the Group that have material non-controlling interests:

Name of subsidiary	Place of incorporation and principal place of business	Proportion of ownership interests and voting rights held by non-controlling interests		(Loss) profit allocated to non-controlling interests		Accumulated non-controlling interests	
		2022	2021	2022 RMB'000	2021 RMB'000	2022 RMB'000	2021 RMB'000
GNE	Bermuda and Hong Kong	N/A	50.76%	(579,270)	(401,143)	—	2,252,030
Other non-wholly owned subsidiaries of GNE				—	20,764	—	49,942
Inner Mongolia Xin Yuan	PRC	43.23%	32.24%	(187,266)	3,657	1,437,583	124,097
Individually immaterial subsidiaries of the Group with non–controlling interests				216,180	(6,223)	1,435,054	849,523
				(550,356)	(382,945)	2,872,637	3,275,592

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55b. Details of non-wholly-owned subsidiaries that have material non-controlling interests (Continued)

Summarised financial information in respect of non-wholly-owned subsidiaries that have material non-controlling interests is set out below. As at 31 December 2022, Inner Mongolia Xin Yuan is the only subsidiary of the Group that has material non-controlling interests (2021: GNE is the only subsidiary of the Group that has material non-controlling interests.). The summarised financial information below represents amounts before intragroup eliminations.

	Inner Mongolia Xin Yuan
	2022 **RMB'000**
Current assets	**3,910,581**
Non-current assets	**7,404,145**
Current liabilities	**(7,046,526)**
Non-current liabilities	**(889,265)**
Net assets	**3,378,935**
Non-controlling interests of Inner Mongolia Xin Yuan	**1,437,583**
Revenue	**51,138**
Loss and total comprehensive income for the year	**(374,877)**
Loss allocated to non-controlling interest	**(187,266)**
Net cash outflow to operating activities	**(1,118,261)**
Net cash outflow to investing activities	**(2,254,730)**
Net cash inflow from financing activities	**4,053,958**
Net cash inflow	**680,967**

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55b. Details of non-wholly-owned subsidiaries that have material non-controlling interests (Continued)

	GNE
	2021 RMB'000
Current assets	8,202,227
Non-current assets	7,714,442
Current liabilities	(3,643,971)
Non-current liabilities	(5,318,825)
Equity attributable to owners of the Company	4,651,901
Non-controlling interests of GNE	2,252,030
Non-controlling interests of other non-wholly owned subsidiaries	49,942
Revenue	2,844,899
Expenses, net	(3,406,623)
Loss for the year	(561,724)
Loss for the year attributable to owners of GNE	(790,274)
Profit for the year attributable to non-controlling interests	
— owners of perpetual notes*	207,786
— other non-controlling interests	20,764
Loss for the year	(561,724)
Loss attributable to owners of the Company	(181,345)
Loss attributable to non-controlling interests of GNE	(401,143)
Profit attributable to other non-controlling interests of other non-wholly owned subsidiaries of GNE	20,764
Loss for the year	(561,724)

55. PARTICULARS OF PRINCIPAL SUBSIDIARIES (Continued)

55b. Details of non-wholly-owned subsidiaries that have material non-controlling interests (Continued)

	2021 RMB'000
Other comprehensive income attributable to owners of the Company	21,057
Other comprehensive income attributable to non-controlling interests of GNE	5,497
Other comprehensive income for the year	26,554
Total comprehensive expense attributable to owners of the Company	(160,288)
Total comprehensive expense attributable to non-controlling interests of GNE	(395,646)
Total comprehensive income attributable to non-controlling interests of other non-wholly owned subsidiaries of GNE	20,764
Total comprehensive expense for the year	(535,170)
Dividends paid to non-controlling interests of GNE's subsidiaries	(83,922)
Net cash inflow from operating activities	10,571,068
Net cash inflow from investing activities	455,804
Net cash inflow from financing activities	11,586,147
Net cash outflow inflow	(559,275)

* The perpetual notes were held by wholly owned subsidiaries of the Group and therefore is included in profit attributable to owners of the Company.

56. DISCONTINUED OPERATION

As set out in note 14 to the financial statements, a special interim divided by way of distribution of shares of shares of GNE was declared and distributed to the shareholders during the year ended 31 December 2022. Upon the completion of Distribution in Specie, the Group's effective interest in GNE was changed from 44.44% to 7.44%. The principal activities of GNE are the development, contruction, operation and management of solar farms, which represent a separate line of major business and the Distribution in Specie constitutes the classification of GNE's operation as discontinued operation. Accordingly, the results of new energy business are presented as a discontinued operation in the consolidated financial statements.

56. DISCONTINUED OPERATION (Continued)

The loss for the period/year from the discontinued operation is analysed as follows:

	2022 RMB'000	2021 RMB'000
Revenue#	**819,569**	2,829,600
Cost of sales#	**(446,143)**	(1,055,989)
Gross profit	**373,426**	1,773,611
Other income#	**57,309**	74,597
Other gains and losses, net	**(532,029)**	(153,411)
Impairment loss on expected credit loss model, net	**(138,867)**	(60,515)
Administrative expenses#	**(362,458)**	(670,030)
Share of profits of associates	**112,511**	99,461
Share of profits of joint ventures	**—**	16
Finance costs	**(438,196)**	(1,578,409)
Loss before tax	**(928,304)**	(514,680)
Income tax expense	**(17,340)**	(47,044)
Loss after tax	**(945,644)**	(561,724)
Eliminations of intra-group interest capitalised by GNE*	**—**	24,110
Reclassification of exchange differences upon completion of Distribution in Specie	**3,013**	—
Loss from discontinued operation	**(942,631)**	(537,614)
Cash flow from discontinued operation		
Net cash generated from operating activities	**1,206,879**	602,584
Net cash generated from investing activities	**1,357,284**	1,968,198
Net cash used in financing activities	**(1,901,852)**	(3,150,919)
Net cash inflow/(outflow)	**662,311**	(580,137)

The inter-company transactions between continuing operations of the Group and GNE Group before Distribution in Specie have been eliminated against the revenue, cost of sales, other income and administrative expenses of discontinued operation.

* For the year ended 31 December 2021, the impairment loss on property, plant and equipment of GNE was reduced by RMB24,110,000 in respect of the elimination of the intra-group interest charged by the Group and capitalised by GNE Group.

57. STATEMENT OF FINANCIAL POSITION AND RESERVES OF THE COMPANY

Statement of financial position

	2022 RMB'000	2021 RMB'000
NON-CURRENT ASSETS		
Interest in subsidiaries	**21,993,674**	6,854,593
Amounts due from subsidiaries (Note)	**7,626,453**	7,626,453
	29,620,127	14,481,046
CURRENT ASSETS		
Prepayments and deposits	**59,444**	4,103
Amounts due from subsidiaries (Note)	**12,167,615**	12,386,199
Bank balances and cash (Note)	**336,546**	2,957,115
	12,563,605	15,347,417
CURRENT LIABILITIES		
Other payables	**10,712**	62,661
NET CURRENT ASSETS	**12,552,893**	15,284,756
TOTAL ASSETS LESS CURRENT LIABILITIES	**42,173,020**	29,765,802
NET ASSETS	**42,173,020**	29,765,802
CAPITAL AND RESERVES		
Share capital (note 40)	**2,359,838**	2,359,030
Reserves	**39,813,182**	27,406,772
TOTAL EQUITY	**42,173,020**	29,765,802

Note: As at 31 December 2022, the non-current portion of amounts due from subsidiaries included (i) the amount of RMB807,218,000 (2021: RMB807,218,000) with interest bearing at 5% per annum which will be due over twelve months from the end of the reporting period and (ii) the amount of RMB6,819,235,000 (2021: RMB6,819,235,000) that are non-interest bearing and are not expected to be realised within twelve months from the end of the reporting period and are considered to be quasi-equity loan. ECL for amounts due from subsidiaries and bank balances are assessed on a 12m ECL basis as there had been no significant increase in credit risk since initial recognition and impairment allowance is considered to be insignificant.

57. STATEMENT OF FINANCIAL POSITION AND RESERVES OF THE COMPANY (Continued)

Movement in the Company's reserves

	Share premium RMB'000	Shares held for share award scheme RMB'000	Capital redemption reserve RMB'000	Investments revaluation reserve RMB'000	Treasury shares RMB'000	Share Award Reserve RMB'000	Capital reserve RMB'000	Share options reserve RMB'000	(Accumulated losses)/ Retained Earnings RMB'000	Total RMB'000
At 1 January 2021	31,326,261	(236,629)	22,202	(93,157)	—	—	19,206	145,681	(10,752,103)	20,431,461
Loss for the year	—	—	—	—	—	—	—	—	(123,766)	(123,766)
Loss and total comprehensive expense for the year	—	—	—	—	—	—	—	—	(123,766)	(123,766)
Exercise of share options	39,600	—	—	—	—	—	—	(21,452)	—	18,148
Forfeitures of share options	—	—	—	—	—	—	—	(51,895)	51,895	—
Issue of new shares (note 40)	7,197,679	—	—	—	—	—	—	—	—	7,197,679
Transactions costs attributable to the issue of new shares	(116,750)	—	—	—	—	—	—	—	—	(116,750)
At 31 December 2021	38,446,790	(236,629)	22,202	(93,157)	—-	—-	19,206	72,334	(10,823,974)	27,406,772
Profit for the year	—	—	—	—	—	—	—	—	14,692,465	14,692,465
Profit and total comprehensive expense for the year	—	—	—	—	—	—	—	—	14,692,465	14,692,465
Exercise of share options	22,062	—	—	—	—	—	—	(13,202)	—	8,860
Forfeitures of share options	—	—	—	—	—	—	—	(1,146)	1,146	—
Dividend by way of distribution in specie (note 14)	(1,963,482)	—	—	—	—	—	—	—	—	(1,963,482)
Transaction costs attributable to the distribution in specie	(19,052)	—	—	—	—	—	—	—	—	(19,052)
Repurchase of share	—	—	—	—	(57,971)	—	—	—	—	(57,971)
Equity-settled share-based payment	—	—	—	—	—	185,068	—	—	—	185,068
Purchase of shares under share award scheme	—	(439,478)	—	—	—	—	—	—	—	(439,478)
At 31 December 2022	36,486,318	(676,107)	22,202	(93,157)	(57,971)	185,068	19,206	57,986	3,869,637	39,813,182

Note: Differences between the reserves of the Company and of the Group, as disclosed in the consolidated statement of changes in equity, represented the consolidation adjustments arising from the reverse acquisition by GCL Solar in 2009. For more details, please refer to 2009 annual report of the Group.

58. COMPARATIVE FIGURES

Certain comparative figures have been reclassified to conform to the reporting period's presentation.

Chairman

Zhu Gongshan

Executive Directors

Zhu Gongshan
Zhu Yufeng *(Vice Chairman)*
Zhu Zhanjun *(Vice Chairman & Joint CEO)*
Lan Tianshi *(Joint CEO)*
Sun Wei
Yeung Man Chung, Charles *(CFO and Company Secretary)*

Independent Non-executive Directors

Ho Chung Tai, Raymond
Yip Tai Him
Shen Wenzhong

Composition of Board Committees

Audit Committee

Yip Tai Him *(Chairman)*
Ho Chung Tai, Raymond
Shen Wenzhong

Remuneration Committee

Ho Chung Tai, Raymond *(Chairman)*
Yip Tai Him
Zhu Yufeng

Nomination Committee

Yip Tai Him *(Chairman)*
Ho Chung Tai, Raymond
Yeung Man Chung, Charles

Corporate Governance Committee

Ho Chung Tai, Raymond *(Chairman)*
Yip Tai Him
Yeung Man Chung, Charles

Strategy & Investment Committee

Ho Chung Tai, Raymond *(Chairman)*
Zhu Gongshan
Yip Tai Him
Shen Wenzhong
Zhu Zhanjun
Yeung Man Chung, Charles

Environmental, Social and Governance Committee

Shen Wenzhong *(Chairman)*
Ho Chung Tai, Raymond
Yip Tai Him
Yeung Man Chung, Charles

Company Secretary

Yeung Man Chung, Charles

Authorized Representatives

Zhu Zhanjun
Yeung Man Chung, Charles

Auditor

Crowe (HK) CPA Limited
9/F Leighton Centre
77 Leighton Road
Causeway Bay
Hong Kong

Registered Office

Cricket Square, Hutchins Drive
P.O. Box 2681
Grand Cayman, KY1-1111
Cayman Islands

Principal Place of Business in Hong Kong

Unit 1703–1706, Level 17
International Commerce Centre
1 Austin Road West
Kowloon, Hong Kong

Cayman Islands Principal Share Registrar and Transfer Office

Suntera (Cayman) Limited
Suite 3204, Unit 2A
Block 3, Building D
P.O. Box 1586
Gardenia Court
Camana Bay
Grand Cayman, KY1-1100
Cayman Islands

Hong Kong Branch Share Registrar and Transfer Office

Tricor Investor Services Limited
17/F Far East Finance Centre
16 Harcourt Road
Hong Kong

Legal Advisers to the Company

As to Hong Kong law

Freshfields Bruckhaus Deringer
55th Floor
One Island East
Taikoo Place, Quarry Bay
Hong Kong

As to Cayman Islands law

Conyers Dill & Pearman
Cricket Square, Hutchins Drive
P.O. Box 2681
Grand Cayman, KY1-1111
Cayman Islands

Company's Website

www.gcltech.com

INFORMATION FOR INVESTORS

Listing Information

Listing: Main Board of the Hong Kong Stock Exchange Limited
Stock Code: 3800

Share Information

Board Lot Size: 1,000 shares
Issued Shares as at 31 December 2022: 27,108,497,973 shares

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GLOSSARY OF TERMS

In this report, the following expressions have the meanings set out below unless defined in the context of this report:

"Board" or "Board of Directors"	board of Directors
"China" or "PRC"	the People's Republic of China, for the purposes of this report, excludes Hong Kong and Macau Special Administrative Region of the PRC
"Company" or "GCL Technology"	GCL Technology Holdings Limited (協鑫科技控股有限公司) (formerly known as GCL-Poly Energy Holdings Limited (保利協鑫能源控股有限公司)), a company incorporated in the Cayman Islands with limited liability, the shares of which are listed on the Main Board of the Stock Exchange (stock code: 3800)
"Director(s)"	director(s) of the Company or any one of them
"Dongsheng PV"	Dongsheng Photovoltaic Technology (Hong Kong) Limited* (東昇光伏科技 (香港) 有限公司), a limited liability company incorporated in Hong Kong and a subsidiary of GCL System Integration
"GCL Electric"	GCL Electric Power Design and Research Co., Ltd.* (協鑫電力設計研究有限公司), a limited liability company incorporated in the PRC and a subsidiary of the Company and GNE
"GCL Energy Engineering"	GCL Energy Engineering Co., Ltd.* (協鑫能源工程有限公司), a company incorporated in the PRC and a subsidiary of GCL System Integration
"GCL Intelligent Energy"	GCL Intelligent Energy Co., Ltd.* (協鑫智慧能源股份有限公司) (formerly known as GCL Intelligent Energy (Suzhou) Co., Ltd.* (協鑫智慧能源 (蘇州) 有限公司) and GCL-Poly Limited* (保利協鑫有限公司)), a company established in the PRC
"GCL Tech Suzhou New Energy"	GCL Tech (Suzhou) New Energy Co., Ltd.* (協鑫科技 (蘇州) 新能源有限公司), an indirect subsidiary of the Company which is incorporated in the PRC with limited liability
"GCL Solar Energy"	GCL Solar Energy Limited, a company incorporated in Hong Kong with limited liability, which is a subsidiary of the Company
"GCL System Integration"	GCL System Integration Technology Co., Ltd (協鑫集成科技股份有限公司) (a company incorporated in the PRC with its shares listed on the SME Board of the Shenzhen Stock Exchange) (stock code: 002506)

"GCL System Integration (Suzhou)"	GCL System Integration Technology (Suzhou) Ltd.* (協鑫集成科技(蘇州)有限公司), a company established in the PRC and a subsidiary of GCL System Integration
"GNE"	GCL New Energy Holdings Limited (協鑫新能源控股有限公司), a company incorporated in Bermuda with limited liability, the shares of which are listed on the Main Board of the Stock Exchange (stock code: 451), which is an associate company of the Company.
"Group"	GCL Tech and its subsidiaries
"GW"	gigawatts
"Jiangsu Jiarun"	Jiangsu Jiarun Property Co., Ltd.* (江蘇嘉潤置業有限公司), a company established in the PRC
"Jiangsu Zhongneng"	Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd.* (江蘇中能硅業科技發展有限公司), a company incorporated in the PRC and a subsidiary of the Company
"Kunshan GCL"	Kunshan GCL Optoelectronic Material Co. Ltd* (昆山協鑫光電材料有限公司)
"Listing Rules"	The Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited
"Mr. Zhu"	Mr. Zhu Gongshan, the Chairman and an executive Director
"Mr. Zhu Yufeng"	son of Mr. Zhu and an executive Director
"MT"	metric tonnes
"MW"	megawatts
"MWh"	megawatt hour
"PRC"	the People's Republic of China
"PV"	photovoltaic
"Stock Exchange"	The Stock Exchange of Hong Kong Limited
"Suzhou GCL"	Suzhou GCL Energy Technology Co., Ltd.* (蘇州協鑫能源科技有限公司) a company established in the PRC
"Suzhou GCL Power"	Suzhou GCL Solar Power Investment Ltd.* (蘇州保利協鑫光伏電力投資有限公司), a company incorporated in the PRC with limited liability, a subsidiary of the Company

"Suzhou GCL Research"	Suzhou GCL Industrial Applications Research Co., Ltd.* (蘇州協鑫工業應用研究院有限公司), a subsidiary of the Company and a company established in the PRC
"Suzhou Xin Zhi Hai"	Suzhou Xin Zhi Hai Management Consulting Co., Ltd.* (蘇州鑫之海企業管理諮詢有限公司), a company incorporated in the PRC with limited liability
"Taicang GCL"	Taicang GCL Photovoltaic Technology Co., Ltd* (太倉協鑫光伏科技有限公司), a company incorporated in the PRC and a subsidiary of the Company
"Taicang Power"	Taicang GCL Power Generation Co., Ltd* (太倉港協鑫發電有限公司), a company incorporated in the PRC
"U.S."	United States of America
"W"	watts
"Wuxi Huaguang"	Wuxi Huaguang Boiler Co., Ltd.* (無錫華光鍋爐股份有限公司), a company incorporated in the PRC and the shares of which are listed on the Shanghai Stock Exchange with stock code 600475
"Xi'an Datang Electric"	Xi'an Datang Electric Power Design and Research Institute Co., Ltd.* (西安大唐電力設計研究院有限公司), a company incorporated in the PRC with limited liability
"Xinjiang GCL"	Xinjiang GCL New Energy Materials Technology Co., Limited* (新疆協鑫新能源材料科技有限公司), a company incorporated in the PRC and an associate of the Company
"Xinjiang Guoxin"	Xinjiang Guoxin Coal Energy Co., Limited* (新疆國信煤電能源有限公司), a company incorporated in the PRC
"Xinjiang Intelligent Energy"	Xinjiang GCL Intelligent Energy Services Co., Limited* (新疆協鑫智慧能源服務有限公司), a company incorporated in the PRC
"Yangzhou GCL"	Yangzhou GCL Photovoltaic Technology Co., Ltd* (揚州協鑫光伏科技有限公司), a company incorporated in the PRC and a subsidiary of the Company
"Yangzhou Power"	Yangzhou Harbour Sludge Power Co., Ltd* (揚州港口污泥發電有限公司), a company incorporated in the PRC
"Zhu Family Trust"	the discretionary trust known as "Asia Pacific Energy Fund", of which Mr. Zhu and his family (including Mr. Zhu Yufeng, an executive Director and son of Mr. Zhu) are beneficiaries

* English name for identification only

GCL

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