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 五淩電力有限公司 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 RMB'000	2021 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	2021
	RMB'000	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)	Lifetime ECL (credit-impaired)	Total
	RMB'000	RMB'000	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)	During the year: 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	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
				Number of shares issuable under options					
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				
	Tranche 1	Tranche 2	Tranche 3	Tranche 4	Tranche 5	Tranche 1	Tranche 2	Tranche 3	Tranche 4	Tranche 5
Maturity date	9 March 2023	9 March 2024	9 March 2025	9 March 2026	9 March 2027	27 July 2023	27 July 2024	27 July 2025	27 July 2026	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	Number of shares issuable under options			
				Outstanding at 1 January 2021	Granted during the year	Forfeited during the year	Outstanding at 31 December 2021
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		Principal activities
			2022 %	2021 %	
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		Principal activities
			2022 %	2021 %	
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		Principal activities
			2022 %	2021 %	
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 2022 %	2021 %	Principal activities
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.