

# Notes to the Consolidated Financial Statements

## 1 General information

The Hong Kong and China Gas Company Limited (the “Company”) and its subsidiaries (collectively, the “Group”) have been diversified into different fields of businesses and principally engage in the production, distribution and marketing of gas, water supply and emerging environmentally-friendly energy businesses in Hong Kong and the mainland of the People’s Republic of China (the “PRC”). The Group is also engaged in property development and investment activities in Hong Kong.

The Company is a limited liability company incorporated and domiciled in Hong Kong and listed on The Stock Exchange of Hong Kong Limited. The address of its registered office is 23rd Floor, 363 Java Road, North Point, Hong Kong.

## 2 Summary of significant accounting policies

The principal accounting policies applied in the preparation of the consolidated financial statements are set out below. These policies have been consistently applied to both years presented, unless otherwise stated.

### (a) Basis of preparation

The consolidated financial statements of the Company have been prepared in accordance with Hong Kong Financial Reporting Standards (“HKFRS”). They have been prepared under the historical cost convention, as modified by the revaluation of investment property, financial assets and liabilities at fair value through profit or loss (“FVPL”), financial assets and liabilities at fair value through other comprehensive income (“FVOCI”) and derivative financial instruments, which are carried at fair value.

As at 31st December 2022, the Group was in a net current liabilities position of approximately HK\$14.8 billion. This is mainly because of management utilisation of the short-term borrowings which amounted to HK\$19.7 billion as at 31st December 2022. Taking into consideration the Group’s available facilities, history of obtaining external financing and the Group’s expected cash flows from operations, management believes that there are sufficient financial resources available to the Group to meet its liabilities as and when they fall due. Accordingly, these consolidated financial statements have been prepared on a going concern basis.

The preparation of financial statements in conformity with HKFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Group’s accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in note 4.

### (i) *Amendments to standards and revised accounting guideline adopted in 2022*

The Group has adopted the following amendments to standards and revised accounting guideline which are effective for the Group’s financial year beginning 1st January 2022 and relevant to the Group.

Amendments to HKFRS 3, HKAS 16 and HKAS 37	Narrow-scope amendments
Annual Improvements Project AG5 (revised)	Annual Improvements to HKFRSs 2018-2020 Revised Accounting Guideline 5 Merger Accounting for Common Control Combinations

The adoption of the amendments to standards and revised accounting guideline has no significant impact on the Group’s results and financial position or any substantial changes in Group’s accounting policies.

## 2 Summary of significant accounting policies (Continued)

### (a) Basis of preparation (Continued)

(ii) *New standards, amendments and interpretations to existing standards which are not yet effective for the year ended 31st December 2022 but relevant to the Group and have not been early adopted by the Group*

Amendments to HKAS 1 and HKFRS Practice Statement 2 <sup>(1)</sup>	Disclosure of Accounting Policies
Amendments to HKAS 8 <sup>(1)</sup>	Definition of Accounting Estimates
Amendments to HKAS 12 <sup>(1)</sup>	Deferred tax related to Assets and Liabilities arising from a Single Transaction
Amendments to HKAS 1 <sup>(2)</sup>	Classification of Liabilities as Current or Non-current and Non-current Liabilities with Covenants
Amendments to HKFRS 16 <sup>(2)</sup>	Lease Liability in a Sale and Leaseback
HK Int 5 (revised) <sup>(2)</sup>	Hong Kong Interpretation 5 (revised) Presentation of Financial Statements – Classification by the Borrower of a Term Loan that Contains a Repayment on Demand Clause (HK Int 5 (revised))
Amendments to HKFRS 10 and HKAS 28 <sup>(3)</sup>	Sale or Contribution of Assets between an Investor and its Associate or Joint Venture

(1) Effective for annual periods beginning 1st January 2023

(2) Effective for annual periods beginning 1st January 2024

(3) To be determined

Except for the amendments to HKFRSs mentioned below, the directors of the Company anticipate that the application of all other new standards, amendments and interpretations to existing standards will have no material impact on the consolidated financial statements in the foreseeable future.

#### ***Amendments to HKAS 1 “Classification of Liabilities as Current or Non-current and related amendments to Hong Kong Interpretation 5 (2020)” (the “2020 Amendments”)***

The amendments provide clarification and additional guidance on the assessment of right to defer settlement for at least 12 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
- 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 HKAS 32 “Financial Instruments: Presentation” (“HKAS 32”).

In addition, Hong Kong Interpretation 5 was revised as a consequence of the “Amendments to HKAS 1” to align the corresponding wordings with no change in conclusion.

## 2 Summary of significant accounting policies (Continued)

### (a) Basis of preparation (Continued)

- (ii) *New standards, amendments and interpretations to existing standards which are not yet effective for the year ended 31st December 2022 but relevant to the Group and have not been early adopted by the Group* (Continued)

#### *Amendments to HKAS 1 “Non-current Liabilities with Covenants” (the “2022 Amendments”)*

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 amendments specify that only covenants with which the entity is required 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 date. 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 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 classifies 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 amendments also defer the effective date of the 2020 Amendments to annual reporting periods beginning on or after 1st January 2024. The amendments, together with the 2020 Amendments, are effective for annual reporting periods beginning on or after 1st January 2024, with early application permitted. If an entity applies the 2020 Amendments for an earlier period after the issue of the 2022 Amendments, the entity should also apply the 2022 Amendments for that period.

Upon the application of the amendments, covenants which the Group is required to comply with only after the reporting period do not affect whether that right exists at the end of the reporting date. Instead, the Group will disclose additional information about the covenants and facts and circumstances that indicate the Group may have difficulty complying with the covenants.

As at 31st December 2022, the Group’s outstanding convertible bonds include counterparty conversion options that do not meet equity instruments classification by applying HKAS 32. The Group classified as current or non-current based on the earliest date in which the Group has the obligation to redeem these instruments through cash settlement. The debt component is measured at amortised cost with carrying amount of HK\$1,854.9 million and the embedded derivative component (including the conversion options) is measured at fair value with carrying amount of HK\$200.7 million as at 31st December 2022, both of which are classified as non-current as set out in notes 32 and 25 respectively. Upon the application of the amendments, in addition to the obligation to redeem through cash settlement, the transfer of equity instruments upon the exercise of the conversion options that do not meet equity instruments classification also constitute settlement of the convertible instruments. Given that the conversion options are exercisable anytime, the debt and the embedded derivative component amounting to HK\$2,055.6 million would be reclassified to current liabilities as the holders have the option to convert within 12 months.

Except for as disclosed above, the application of the amendments will not result in reclassification of the Group’s other liabilities as at 31st December 2022.

## 2 Summary of significant accounting policies (Continued)

### (b) Consolidation

The consolidated financial statements include the financial statements of the Company and its subsidiaries made up to 31st December.

#### (i) *Subsidiaries*

Subsidiaries are entities (including a structured entity) over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

The Group applies the acquisition method to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair values of the assets transferred, the liabilities incurred to the former owners of the acquiree and the equity interests issued by the Group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the date of acquisition. Subsequent changes to the fair value of the contingent consideration that is deemed to be an asset or liability is recognised in accordance with HKFRS 9 in the profit or loss. Contingent consideration that is classified as equity is not remeasured, and its subsequent settlement is accounted for within equity. The Group recognises any non-controlling interest in the acquiree on an acquisition-by-acquisition basis, either at fair value or at the non-controlling interest's proportionate share of the recognised amounts of acquiree's net identifiable assets.

Goodwill is initially measured as the excess of the aggregate of the consideration transferred and the fair value of non-controlling interest over the net identifiable assets acquired and liabilities assumed. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognised in the profit or loss.

Inter-company transactions, balances, income and expenses on transactions between group companies are eliminated. Profits and losses resulting from inter-company transactions that are recognised in assets are also eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

In the Company's statement of financial position, the investments in subsidiaries are stated at cost less provision for impairment. Cost also includes direct attributable cost of investment. The results of subsidiaries are accounted by the Company on the basis of dividend received and receivable.

#### (ii) *Changes in ownership interests in subsidiaries without change of control*

Transactions with non-controlling interests that do not result in loss of control are accounted for as equity transactions – that is, as transactions with the owners in their capacity as owners. The difference between fair value of any consideration paid and the relevant share acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to non-controlling interests are also recorded in equity.

#### (iii) *Disposal of subsidiaries*

When the Group ceases to have control, any retained interest in the entity is re-measured to its fair value at the date when control is lost, with the change in carrying amount recognised in the profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, a joint venture or a financial asset. In addition, any amounts previously recognised in the other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets or liabilities. This may mean that amounts previously recognised in the other comprehensive income are reclassified to the profit or loss.

## 2 Summary of significant accounting policies (Continued)

### (b) Consolidation (Continued)

#### (iv) Associates

Associates are all entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20 per cent and 50 per cent of the voting rights. Investments in associates are accounted for using the equity method of accounting. Under the equity method, the investment is initially recognised at cost, and the carrying amount is increased or decreased to recognise the investor's share of the profit or loss of the investee after the date of acquisition. The Group's investment in associates includes goodwill identified on acquisition. Upon the acquisition of the ownership interest in an associate, any difference between the cost of the associate and the Group's share of the net fair value of the associate's identifiable assets and liabilities is accounted for as goodwill.

If the ownership interest in an associate is reduced but significant influence is retained, only a proportionate share of the amounts previously recognised in the other comprehensive income is reclassified to the profit or loss where appropriate.

The Group's share of its associates' post-acquisition profits or losses is recognised in the profit or loss, and its share of post-acquisition movements in the other comprehensive income is recognised in the other comprehensive income with a corresponding adjustment to the carrying amount of the investment. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred legal or constructive obligations or made payments on behalf of the associate.

The Group determines at each reporting date whether there is any objective evidence that the investment in the associate is impaired. If this is the case, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate and its carrying value and recognises the amount in the profit or loss.

Profits and losses resulting from upstream and downstream transactions between the Group and its associate are recognised in the Group's financial statements only to the extent of unrelated investor's interests in the associates. Unrealised losses are eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of associates have been changed where necessary to ensure consistency with the policies adopted by the Group.

Dilution gains and losses in associates are recognised in the profit or loss.

In the Company's statement of financial position, the investment in an associate is stated at the cost less provision for impairment. The result of the associate is accounted for by the Company on the basis of dividend received and receivable.

#### (v) Joint ventures

Joint ventures are joint ventures whereby the Group and other parties undertake an economic activity which is subject to joint control and none of the participating parties has unilateral control over the economic activity. Investments in joint ventures are accounted for by the equity method of accounting. Under the equity method, the investment is initially recognised at cost, and the carrying amount is increased or decreased to recognise the investor's share of the profit or loss of the investee after the date of acquisition. The Group's investment in joint ventures includes goodwill identified on acquisition. Upon the acquisition of the ownership interest in a joint venture, any difference between the cost of the joint venture and the Group's share of the net fair value of the joint venture's identifiable assets and liabilities is accounted for as goodwill.

## 2 Summary of significant accounting policies (Continued)

### (b) Consolidation (Continued)

#### (v) *Joint ventures* (Continued)

If the ownership interest in a joint venture is reduced but significant influence is retained, only a proportionate share of the amounts previously recognised in the other comprehensive income is reclassified to the profit or loss where appropriate.

The Group's share of its joint ventures' post-acquisition profits or losses is recognised in the profit or loss, and its share of post-acquisition movements in the other comprehensive income is recognised in the other comprehensive income with a corresponding adjustment to the carrying amount of the investment. When the Group's share of losses in a joint venture equals or exceeds its interest in the joint venture, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred legal or constructive obligations or made payments on behalf of the joint venture.

The Group determines at each reporting date whether there is any objective evidence that the investment in the joint venture is impaired. If this is the case, the Group calculates the amount of impairment as the difference between the recoverable amount of the joint venture and its carrying value and recognises the amount in the profit or loss.

Profits and losses resulting from upstream and downstream transactions between the Group and its joint venture are recognised in the Group's financial statements only to the extent of unrelated investor's interests in the joint ventures. Unrealised losses are eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of joint ventures have been changed where necessary to ensure consistency with the policies adopted by the Group.

Dilution gains and losses in joint ventures are recognised in the profit or loss.

In the Company's statement of financial position, the investments in joint ventures are stated at cost less provision for impairment. The results of joint ventures are accounted for by the Company on the basis of dividend received and receivable.

### (c) Segment reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker. The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the executive committee members that makes strategic decisions.

## 2 Summary of significant accounting policies (Continued)

### (d) Foreign currency translation

#### (i) *Functional and presentation currency*

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). The consolidated financial statements are presented in Hong Kong dollars ("HKD"), which is the Company's functional and presentation currency.

#### (ii) *Transactions and balances*

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognised in profit or loss. They are deferred in equity if they relate to qualifying cash flow hedges and qualifying net investment hedges or are attributable to part of the net investment in a foreign operation.

Foreign exchange gains and losses that relate to borrowings are presented in the income statement, within finance costs. All other foreign exchange gains and losses are presented in the income statement on a net basis within other gains/(losses), net.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on non-monetary assets and liabilities such as equities held at FVPL are recognised in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities classified as FVOCI are recognised in other comprehensive income.

#### (iii) *Group companies*

The results and financial position of all the Group entities, including associates and joint ventures, (none of which has the currency of a hyperinflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- assets and liabilities for each statement of financial position presented are translated at the closing rate at the date of that statement of financial position;
- income and expenses for each income statement are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the dates of the transactions); and
- all resulting exchange differences are recognised in other comprehensive income.

On consolidation, exchange differences arising from the translation of the net investment in foreign operations are taken to other comprehensive income. When a foreign operation is sold, exchange differences that were recorded in equity are recognised in the profit or loss as part of the gain or loss on sale.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate.

## 2 Summary of significant accounting policies (Continued)

### (e) Exploration and evaluation expenditure

Exploration and evaluation expenditure comprises costs which are directly attributable to: researching and analysing historical exploration data; conducting geological studies, exploratory drilling and sampling; examining and testing extraction and treatment methods; and compiling pre-feasibility and feasibility studies. Exploration and evaluation expenditure also includes the costs incurred in acquiring mining and oil properties, the entry premiums paid to gain access to areas of interest and amounts payable to third parties to acquire interests in existing projects.

During the initial stage of a project, exploration and evaluation costs, other than costs incurred in acquiring land use right and mining and oil properties, are expensed as incurred. Expenditure on a project after it has reached a stage at which there is a high degree of confidence in its viability is capitalised and transferred to property, plant and equipment if the project proceeds. If a project does not prove viable, all irrecoverable costs associated with the project are expensed in the profit or loss.

### (f) Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment. The capitalised costs in respect of capital work in progress include direct materials, direct labour costs, subcontracting costs, capitalised borrowing costs and other direct overheads. Capital work in progress is transferred to relevant categories of property, plant and equipment upon completion of their respective work.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognised. All other repairs and maintenance incurred in restoring property, plant and equipment to their normal working condition are charged to the profit or loss.

Depreciation of property, plant and equipment is calculated on a straight-line basis to allocate the cost less accumulated impairment of each component of the asset to its residual value over its estimated useful life as follows:

Production plant and related equipment	10 – 40 years
Vehicles, office furniture and equipment	5 – 15 years
Gas mains and risers	25 – 40 years
Water mains	30 – 50 years
Gasholders, office, store and buildings	20 – 40 years
Meters and installations	5 – 30 years
Mining and oil properties	Based on the unit-of-production method utilising only estimated recoverable coal and oil reserves as the depletion base
Others	5 – 30 years
Capital work in progress	No depreciation

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each date of statement of financial position.

Gain or loss on disposal of a property, plant and equipment is the difference between the net sales proceeds and the carrying amount of the relevant asset and is recognised in the profit or loss.

## **2 Summary of significant accounting policies** (Continued)

### **(g) Deferred overburden removal costs**

Mining structures include deferred stripping costs and mining related property, plant and equipment. When estimated coal reserves have been determined, stripping costs incurred to develop coal mines are capitalised as part of the cost of the mining structures. Stripping costs incurred during the production phase are variable production costs that are included in the costs of inventory produced during the period that the stripping costs are incurred, unless the stripping activity can be shown to give rise to future benefits from the mineral properties, in which case the stripping costs would be capitalised into property, plant and equipment as mining structures. Future benefits arise when stripping activity increases the future output of the mine by providing access to a new ore body.

Mining structures are depreciated on the unit-of-production method utilising only estimated coal reserves in the depletion base, or based on the useful lives of respective items of property, plant and equipment, whichever is appropriate.

### **(h) Investment property**

Property owned or held by the lessee as a right-of-use asset that is held for long-term rental yields or for capital appreciation or both, and that is not occupied by the Group, is classified as investment property.

Investment property is measured initially at its cost, including related transaction costs. After initial recognition, investment property is carried at fair value. Fair value is based on active market value, adjusted, if necessary, for any difference in the nature, location or condition of the specific asset. If this information is not available, the Group uses alternative valuation methods such as recent prices on less active markets or discounted cash flow projections. These valuations are performed in accordance with the HKIS Valuation Standards (2020 Edition) published by The Hong Kong Institute of Surveyors (“HKIS”). These valuations are reviewed annually by qualified valuers. The fair value of investment property reflects, among other things, rental income from current leases and assumptions about rental income from future leases in the light of current market conditions. The fair value also reflects, on a similar basis, any cash outflows that could be expected in respect of the property.

Subsequent expenditure is charged to the asset’s carrying amount only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance costs are expensed in the profit or loss during the financial period in which they are incurred.

Changes in fair values are recognised in the profit or loss.

Property that is being constructed or developed for future use as investment property is classified as investment properties and measured at fair value unless fair value cannot be reliably determined. Any difference between the fair value of the property at that date and its previous carrying amount is recognised in the profit or loss.

If an item of property, plant and equipment becomes an investment property because its use has changed, any difference resulting between the carrying amount and the fair value of this item at the date of transfer is recognised in equity as a revaluation of property, plant and equipment. However, if a fair value gain reverses a previous impairment, the gain is recognised in the profit or loss.

### **(i) Leases**

Leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices.

## 2 Summary of significant accounting policies (Continued)

### (i) Leases (Continued)

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payment that are based on an index or a rate, initially measured using the index or rate as at the commencement date
- amounts expected to be payable by the Group under residual value guarantees
- the exercise price of a purchase option if the Group is reasonably certain to exercise that option, and
- payments of penalties for terminating the lease, if the lease term reflects the Group exercising that option.

Lease payments to be made under reasonably certain extension options are also included in the measurement of the liability.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, which is generally the case for leases in the Group, the lessee's incremental borrowing rate is used, being the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions.

The Group is exposed to potential future increases in variable lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Lease payments are allocated between principal and finance cost. The finance cost is charged to the profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs.

Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Lease income from operating leases where the Group is a lessor is recognised in the profit or loss on a straight-line basis over the lease term.

### (j) Intangible assets

Goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of the net identifiable assets of the acquired subsidiaries, associates and joint ventures at the date of acquisition. Goodwill on acquisitions of subsidiaries is included in "intangible assets". Goodwill arising on an acquisition of an associate or a joint venture is included in the cost of the investment of the relevant associate or joint venture. Separately recognised goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on separately recognised goodwill are not reversed. Gains and losses on the disposal of an entity include the carrying amount of goodwill relating to the entity sold.

## 2 Summary of significant accounting policies (Continued)

### (j) Intangible assets (Continued)

Separately recognised goodwill is allocated to cash-generating units, primarily individual projects, for the purpose of impairment testing. The allocation is made to those cash-generating units or groups of cash-generating units that are expected to benefit from the business combination in which the goodwill arose.

Other intangible assets with finite useful lives are carried at cost less accumulated amortisation and impairment. Amortisation is calculated using the straight-line method to allocate the cost over the period of the relevant right from 15 years to 50 years.

Other intangible assets with indefinite useful lives are not amortised. The useful life of these intangibles is reviewed each reporting period to determine whether indefinite life assessment continues to be supportable.

### (k) Impairment of investments in subsidiaries, associates, joint ventures and non-financial assets

Goodwill are at least tested annually for impairment and are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Other assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

An impairment is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value-in-use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Assets other than separately recognised goodwill that suffered an impairment are reviewed for possible reversal of the impairment at each reporting date.

### (l) Investments and other financial assets

#### (i) Classification

The Group classifies its financial assets in the following categories: those to be measured subsequently at fair value (either through other comprehensive income or through profit or loss) and those to be measured at amortised cost. The classification depends on the entity's business model for managing the financial assets and the contractual terms of the cash flows.

For assets measured at fair value, gains and losses will either be recorded in the profit or loss or other comprehensive income. For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investments at FVOCI.

The Group reclassifies debt investments when and only when its business model for managing those assets changes.

#### (ii) Recognition and derecognition

Regular way purchases and sales of financial assets are recognised on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

#### (iii) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at FVPL, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in the profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

## 2 Summary of significant accounting policies (Continued)

### (l) Investments and other financial assets (Continued)

#### (iii) Measurement (Continued)

##### Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments as FVOCI where assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at FVOCI. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment gains or losses, interest income and foreign exchange gains and losses which are recognised in the profit or loss. When the financial asset is derecognised, the cumulative gain or loss previously recognised in other comprehensive income is reclassified from equity to the profit or loss and recognised in other gains/(losses), net. Interest income from these financial assets is included in finance income using the effective interest rate method. Foreign exchange gains and losses are presented in other gains/(losses), net and impairment expenses are presented as separate line item in the income statement.

##### Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to the profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognised in the profit or loss as other gains/(losses), net when the Group's right to receive payments is established.

Changes in the fair value of financial assets at FVPL are recognised in other gains/(losses), net in the income statement as applicable. Impairment losses (and reversal of impairment losses) on equity investments measured at FVOCI are not reported separately from other changes in fair value.

#### (iv) Impairment

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortised cost and FVOCI. The impairment methodology applied depends on whether there has been a significant increase in credit risk.

For trade receivables, the Group applies the simplified approach permitted by HKFRS 9, which requires expected lifetime losses to be recognised from initial recognition of the receivables, with further details set out in note 29.

### (m) Derivative financial instruments and hedging activities

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured at their fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The Group designates certain derivatives as hedges of a particular risk associated with a recognised asset or liability or a highly probable forecast transaction (cash flow hedge).

At the inception of the hedging, the Group documents the economic relationship between hedging instruments and hedged items, including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items. The Group documents its risk management objective and strategy for undertaking its hedge transactions.

## 2 Summary of significant accounting policies (Continued)

### (m) Derivative financial instruments and hedging activities (Continued)

The fair values of derivative financial instruments designated in hedge relationships are disclosed in note 25. Movements in the hedging reserve in shareholders' equity are shown in note 36. The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is more than 12 months; it is classified as a current asset or liability when the remaining maturity of the hedged item is less than 12 months. Trading derivatives are classified as a current asset or liability.

#### *Cash flow hedge that qualify for hedge accounting*

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in cash flow hedge reserve within equity. The gain or loss relating to the ineffective portion is recognised immediately in the profit or loss within other gains/(losses), net.

When option contracts are used to hedge forecast transactions, the Group designates only the intrinsic value of the options as the hedging instrument.

Gains or losses relating to the effective portion of the change in intrinsic value of the options are recognised in the cash flow hedge reserve within equity. The changes in the time value of the options that relate to the hedged item ('aligned time value') are recognised within other comprehensive income in the costs of hedging reserve within equity.

When forward contracts are used to hedge forecast transactions, the Group generally designates only the change in fair value of the forward contracts related to the spot component as the hedging instrument. Gains or losses relating to the effective portion of the change in the spot component of the forward contracts are recognised in the cash flow hedge reserve within equity. The change in the forward element of the contracts that relates to the hedged item ('aligned forward element') is recognised within other comprehensive income in the costs of hedging reserve within equity. In some cases, the entity may designate the full change in fair value of the forward contracts (including forward points) as the hedging instrument. In such cases, the gains or losses relating to the effective portion of the change in fair value of the entire forward contracts are recognised in the cash flow hedge reserve within equity.

Amounts accumulated in equity are reclassified in the periods when the hedged item affects the profit or loss, as follows:

- Where the hedged item subsequently results in the recognition of a non-financial asset (such as inventory), both the deferred hedging gains and losses and the deferred time value of the option contracts or deferred forward points, if any, are included within the initial cost of the asset. The deferred amounts are ultimately recognised in the profit or loss as the hedged item affects the profit or loss (for example through cost of sales).
- The gain or loss relating to the effective portion of the interest rate swaps hedging variable rate borrowings is recognised in the profit or loss within finance cost at the same time as the interest expense on the hedged borrowings.

When a hedging instrument expires, or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, any cumulative deferred gain or loss and deferred costs of hedging in equity at that time remains in equity until the forecast transaction occurs, resulting in the recognition of a non-financial asset such as inventory. When the forecast transaction is no longer expected to occur, the cumulative gain or loss and deferred costs of hedging that were reported in equity are immediately reclassified to the profit or loss.

## 2 Summary of significant accounting policies (Continued)

### (n) Inventories

Inventories comprise stores and materials and work in progress and are stated at the lower of cost and net realisable value. Cost, calculated on the weighted average basis, comprises materials, direct labour and an appropriate proportion of overheads. Net realisable value is determined on the basis of anticipated sales proceeds less estimated selling expenses.

### (o) Contract assets and contract liabilities

Upon entering into a contract with a customer, the Group obtains rights to receive consideration from the customer and assumes performance obligations to transfer goods or provide services to the customer.

The combination of those rights and performance obligations gives rise to a net contract asset or a net contract liability depending on the relationship between the remaining rights and the performance obligations. The contract is an asset and recognised as contract assets if the cumulative revenue recognised in the profit or loss exceeds cumulative payments made by customers. Conversely, the contract is a liability and recognised as contract liabilities if the cumulative payments made by customers exceeds the revenue recognised in the profit or loss.

Contract assets are assessed for impairment under the same approach adopted for impairment assessment of financial assets carried at amortised cost. Contract liabilities are recognised as revenue when the Group transfers the goods or services to the customers and therefore satisfied its performance obligation.

The incremental costs of obtaining a contract with a customer are capitalised and presented as contract related assets, if the Group expects to recover those costs, and are subsequently amortised on a systematic basis that is consistent with the transfer to the customers of the goods or services to which the assets relate. The Group recognises an impairment loss in the profit or loss to the extent that the carrying amount of the contract related assets recognised exceeds the remaining amounts of consideration that the Group expects to receive less the costs that relate directly to providing those goods or services that have not been recognised as expenses.

### (p) Construction contracts

Contract costs are recognised as expenses in the period in which they are incurred.

When the outcome of a construction contract cannot be reasonably measured, but the Group expects to recover the costs incurred in satisfying the performance obligation, contract revenue is recognised only to the extent of contract costs incurred that are expected to be recovered until such time that the outcome of the performance obligation can be reasonably measured.

When the outcome of a construction contract can be reasonably measured, contract revenue is recognised over time by measuring the progress towards complete satisfaction of that performance obligation. When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognised as an expense immediately.

Variations in contract work, claims and incentive payments are included in contract revenue to the extent that they have been agreed with the customer and are capable of being reliably measured.

### (q) Trade and other receivables

Trade receivables are amounts due from customers for merchandises sold or services performed in the ordinary course of business. If collection of trade and other receivables is expected in one year or less (or in the normal operating cycle of the business if longer), they are classified as current assets. If not, they are presented as non-current assets.

## 2 Summary of significant accounting policies (Continued)

### (q) Trade and other receivables (Continued)

Trade and other receivables are recognised initially at the amount of consideration that is unconditional unless they contain significant financing components, when they are recognised at fair value. The Group holds with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost using the effective interest method, less provision for impairment. A provision for impairment is established when there is no reasonable expectation of recovery.

### (r) Cash and cash equivalents

Cash and cash equivalents include cash in hand, deposits held at call with banks, other short term highly liquid investments with original maturities of three months or less and bank overdrafts. In the statement of financial position, cash and cash equivalents are presented as time deposits up to three months, cash and bank balances in current assets and bank overdrafts are included in borrowings in current liabilities.

### (s) Trade payables

Trade payables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method.

### (t) Borrowings and borrowing costs

Borrowings are recognised initially at fair value, net of transaction costs incurred. Borrowings are subsequently stated at amortised cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognised in the profit or loss over the period of the borrowings using the effective interest method.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the drawdown occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalised as a prepayment for liquidity services and amortised over the period of the facility to which it relates.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the statement of financial position date.

Borrowing costs that are directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of that asset. All other borrowing costs are charged to the profit or loss in the year in which they are incurred.

#### ***Convertible bonds***

A conversion option that will be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the Group's own equity instruments is a conversion option derivative.

At the date of the issue, both the debt instrument and the derivative components are recognised at fair value. In subsequent periods, the debt component of the convertible bonds is carried at amortised cost using the effective interest method. The derivative component is measured at fair value with changes in fair value recognised in profit or loss.

Transaction costs that relate to the issue of the convertible bonds are allocated to the debt and derivative components in proportion to their relative fair values. Transaction costs relating to the derivative component are charged to profit or loss immediately. Transaction costs relating to the debt component are included in the carrying amount of the debt portion and amortised over the period of the convertible bonds using the effective interest method.

## 2 Summary of significant accounting policies (Continued)

### (u) Current and deferred taxation

The tax expense for the year comprises current and deferred tax. Tax is recognised in the profit or loss, except to the extent that it relates to items recognised in the other comprehensive income or directly in equity. In this case, the tax is also recognised in the other comprehensive income or directly in equity.

The current taxation is calculated on the basis of the tax laws enacted or substantively enacted at the statement of financial position date in the jurisdictions where the Company, its subsidiaries, associates and joint ventures operate and generate taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation and considers whether it is probable that a taxation authority will accept an uncertain tax treatment. The Group measures its tax balances either based on the most likely amount or the expected value, depending on which method provides a better prediction of the resolution of the uncertainty.

Deferred taxation is recognised using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred tax liabilities are not recognised if they arise from the initial recognition of goodwill. Deferred taxation is also not accounted for if it arises from the initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. Deferred taxation is determined using tax rates (and laws) that have been enacted or substantively enacted by the date of statement of financial position and are expected to apply when the related deferred tax asset is realised or the deferred tax liability is settled.

Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

Deferred taxation is provided on temporary differences arising on investments in subsidiaries, associates and joint ventures, except where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

### (v) Revenue and income recognition

- (i) Gas sales – recognised at point in time and based on gas consumption primarily derived from meter readings.
- (ii) Water sales – recognised at a point in time and based on water consumption primarily derived from meter readings.
- (iii) Liquefied petroleum gas sales – recognised at a point in time and upon completion of the gas filling transaction.
- (iv) Equipment sales – recognised at a point in time and upon completion of installation work or when equipment, materials and parts are delivered to customers and title has passed.
- (v) Oil, coal, biomass utilisation businesses and other chemical products related sales – recognised at a point in time and upon completion of delivery and title has passed.
- (vi) Maintenance and service charges – recognised over time when services are provided.
- (vii) Interest income – recognised on a time proportion basis, taking into account the principal amounts outstanding and the interest rates applicable.
- (viii) Dividend income – recognised when the right to receive payment is established.
- (ix) Rental income – recognised on a straight-line accrual basis over the terms of lease agreements.
- (x) Construction and gas connection income – recognised overtime or at a point in time depending on the terms of the contracts and actual work performed.

## **2 Summary of significant accounting policies** (Continued)

### **(v) Revenue and income recognition** (Continued)

Revenue is recognised when or as the control of the goods or service is transferred to the customer, at the amount of promised consideration to which the Group is expected to be entitled. Depending on the terms of the contract and the laws that apply to the contract, control of the good or service may be transferred over time or at a point in time.

For contracts that contain more than one performance obligations, the Group allocates the transaction price to each performance obligation on a relative stand-alone selling price basis.

The stand-alone selling price of the distinct good or service underlying each performance obligation is determined at contract inception. It represents the price at which the Group would sell a promised good or service separately to a customer. If a stand-alone selling price is not directly observable, the Group estimates it using appropriate techniques such that the transaction price ultimately allocated to any performance obligation reflects the amount of consideration to which the Group expects to be entitled in exchange for transferring the promised goods or services to the customer.

### **(w) Employee benefits**

Salaries, bonuses and paid annual leave are accrued in the year in which the associated services are rendered by employees to the Group.

Equity-settled share-based payments are measured at fair value (excluding the effect of non-market-based vesting conditions) at the date of grant. The fair value determined at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, based on the Group's estimate of their shares that will eventually vest and adjusted for the effect of non-market-based vesting conditions.

The Group operates a number of defined contribution and one defined benefit retirement schemes and the assets of the schemes are held separately from those of the Group in independently administered funds. The retirement schemes are funded by payments from employees and by the Group, taking into account the recommendations of independent qualified actuaries.

#### **(i) Defined contribution retirement schemes**

The Group contributes to defined contribution retirement schemes and Mandatory Provident Fund schemes which are available to salaried employees in Hong Kong. The Group's contributions to these retirement schemes are calculated as a percentage of the employees' basic salaries or relevant income and are expensed as incurred. No forfeited contributions have been utilised by the Group to reduce the existing contributions.

For employees in the Chinese mainland, the Group contributes on a monthly basis to various defined contribution plans organised by the relevant municipal and provincial governments in the Chinese mainland based on a certain percentage of the relevant employees' monthly salaries. The municipal and provincial governments undertake to assume the retirement benefit obligations payable to all existing and future retired employees under these plans and the Group has no further constructive obligation for post-retirement benefits beyond the contributions made. Contributions to these plans are expensed as incurred.

## 2 Summary of significant accounting policies (Continued)

### (w) Employee benefits (Continued)

#### (ii) Defined benefit retirement scheme

The Group also operates a defined benefit retirement scheme, namely the Workmen Retirement Scheme, in Hong Kong. The scheme provides benefit to employees based on final salary. The Group's net obligation in respect of the defined benefit retirement scheme is calculated separately for the scheme using the projected unit credit method. The benefit obligation is measured as the present value of the estimated future benefit that employees have earned for their service in the current and prior years using interest rates of government bonds which have terms to maturity approximating the terms of the related liability.

The current service cost of the defined benefit plan, recognised in the profit or loss in employee benefit expense, except where included in the cost of an asset, reflects the increase in the defined benefit obligation results from employee service in the current year, benefit changes, curtailments and settlements.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise.

Past-service costs are recognised immediately in the profit or loss.

### (x) Provisions and contingencies

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made. Where the Group expects a provision to be reimbursed, the reimbursement is recognised as a separate asset when the reimbursement is virtually certain.

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation using a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to passage of time is recognised as interest expense.

A contingent liability is a possible obligation that arises from past events and whose existence will only be confirmed by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. It can also be a present obligation arising from past events that is not recognised because it is not probable that an outflow of economic resources will be required or the amount of obligation cannot be measured reliably. A contingent liability is not recognised but is disclosed in the notes to the consolidated financial statements. When a change in the probability of an outflow occurs so that the outflow is probable, it will then be recognised as a provision.

A contingent asset is a possible asset that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain events not wholly within the control of the Group. A contingent asset is not recognised but is disclosed in the notes to the consolidated financial statements when an inflow of economic benefits is probable. When inflow is virtually certain, an asset is recognised.

Asset retirement obligations which meet the criteria of provisions are recognised as provisions and the amount recognised is the present value of the estimated future expenditure determined in accordance with local conditions and requirements, while a corresponding addition to the related oil properties of an amount equivalent to the provision is also created. This is subsequently depleted as part of the costs of the oil properties. Interest expenses from the assets retirement obligations for each period are recognised with the effective interest method during the useful life of the related oil properties.

If the conditions for the recognition of the provisions are not met, the expenditures for the decommissioning, removal and site cleaning will be expensed in the profit or loss when occurred.

## 2 Summary of significant accounting policies (Continued)

### (y) Government grants

Grants from the government are recognised at their fair value when there is reasonable assurance that the grant will be received and the Group will comply with all the attached condition.

Government grants are recognised as income over the periods necessary to match them with the related costs which they are intended to compensate, on a systematic basis. Government grants relating to expenses are shown in other gains/(losses), net in the consolidated income statement.

## 3 Financial risk management

### *Financial risk factors*

The Group's activities expose it to a variety of financial risks: market risk (including foreign exchange risk, price risk and cash flow and fair value interest rate risk), credit risk and liquidity risk. The Group's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the Group's financial performance. The Group uses derivative financial instruments to manage and reduce certain risk exposures.

Risk management is carried out by Corporate Treasury Department (Group Treasury) under policies approved by the Treasury Committee, comprising all the executive directors of the Company. Group Treasury identifies, evaluates and manages financial risks in close co-operation with the Group's operating units. The Treasury Committee provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, credit risk, use of derivative financial instruments and non-derivative financial instruments, and investment of excess liquidity.

### (a) Market risk

#### (i) *Foreign exchange risk*

The Group operates in Hong Kong, the Chinese mainland and Thailand and is exposed to foreign exchange risk arising from various unhedged currency exposures, primarily with respect to the United States dollars ("USD"), Renminbi ("RMB") and Thailand Baht ("THB"). Foreign exchange risk arises from future commercial transactions and recognised assets and liabilities.

To manage the foreign exchange risk arising from future commercial transactions and recognised assets and liabilities, the Group uses forward contracts. Foreign exchange risk arises when future commercial transactions or recognised assets or liabilities are denominated in a currency that is not the entity's functional currency. The Group has also entered into cross currency swap contracts to manage its exposure to foreign exchange risk from recognised liabilities, including medium-term notes denominated in foreign currencies. Group Treasury is responsible for managing the net position in each foreign currency by using external forward currency contracts and other suitable financial instruments.

Transactions denominated in the USD mainly arise from the Group's operation in Hong Kong. Pursuant to Hong Kong's Linked Exchange Rate System under which HKD is pegged to the USD, management considers there are no significant foreign exchange risks with respect to the USD. Furthermore, there are no significant transactions and recognised assets and liabilities of the Thailand business in currency other than THB. Management considers there is no significant foreign exchange risk from the Thailand business.

At 31st December 2022, if the RMB had weakened/strengthened by 2 per cent (2021: 2 per cent) against HKD with all other variables held constant, pre-tax profit for the year would have been HK\$42.6 million (2021: HK\$37.1 million) lower/higher.

### 3 Financial risk management (Continued)

#### *Financial risk factors* (Continued)

##### (a) Market risk (Continued)

##### *(ii) Price risk*

The Group is exposed to equity securities price risk for the listed equity investments held by the Group which are classified as financial assets at FVOCI and financial assets at FVPL of HK\$1,257.4 million (2021: HK\$1,599.0 million) and HK\$1,218.3 million (2021: HK\$1,498.0 million) respectively.

The Group controls this risk through active monitoring of price movements and changes in market conditions that may have an impact on the value of these financial assets and instruments.

Majority of the Group's equity securities are publicly traded and are included in one of the following indexes: Hang Seng Index and Shanghai Stock Exchange A Share Index.

The table below summarises the impact of increases/decreases of the following indexes on the Group's pre-tax profit for the year and on other comprehensive income. The analysis is based on the assumption that the indexes had increased/decreased by 10 per cent with all other variables held constant and all the Group's equity securities moved according to the historical correlation with the indexes.

	Impact on pre-tax profit		Impact on other comprehensive income	
	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M
Hang Seng Index	–	–	3.6	4.8
Shanghai Stock Exchange A Share Index	92.3	89.1	94.1	96.1

Pre-tax profit for the year would increase/decrease as a result of gains/losses on equity securities classified as FVPL. Other comprehensive income would increase/decrease as a result of gains/losses on equity securities classified as FVOCI.

##### *(iii) Cash flow and fair value interest rate risk*

Financial instruments at fixed and variable rates expose the Group to fair value interest rate risk and cash flow interest rate risk respectively. The Group's interest-bearing assets mainly comprise floating and fixed rate bank deposits of HK\$13,293.5 million (2021: HK\$10,634.9 million). The Group's interest-bearing liabilities mainly comprises floating rate borrowings of HK\$25,519.0 million (2021: HK\$22,333.8 million), fixed rate borrowings of HK\$33,785.0 million (2021: HK\$32,777.3 million) and floating rate deposits received from customers of HK\$1,453.7 million (2021: HK\$1,434.0 million).

At 31st December 2022, if market interest rates on bank deposits had been 100 basis points (2021: 100 basis points) higher/lower with all other variables held constant, pre-tax profit for the year would have been HK\$101.9 million (2021: HK\$81.1 million) higher/lower, mainly as a result of higher/lower interest income on floating rate bank deposits.

At 31st December 2022, if market interest rates on borrowings and customers' deposits had been 100 basis points (2021: 100 basis points) higher/lower with all other variables held constant, pre-tax profit for the year would have been HK\$273.3 million (2021: HK\$210.0 million) lower/higher, mainly as a result of higher/lower interest expense on floating rate borrowings and customers' deposits.

### 3 Financial risk management (Continued)

#### *Financial risk factors (Continued)*

##### (b) Credit risk

Credit risk of the Group mainly arises from:

	2022 HK\$'M	2021 HK\$'M
Cash and bank deposits	13,293.5	10,634.9
Debt securities and derivative financial instruments	639.8	757.3
Trade receivables	4,435.6	4,211.8
Other receivables	4,053.6	3,153.7
Loan and other receivables from joint ventures	612.8	535.9
Loan and other receivables from associates	1,091.8	1,161.5
Loan and other receivables from non-controlling shareholders	224.0	306.6
Other non-current assets	3,850.4	3,586.0

The Group has no significant concentrations of credit risk. The Group has credit policy to handle credit risk of customers. There is no significant concentration of sales to any individual customer. The top five largest customers account for less than 30 per cent of the total revenues. Furthermore, security deposits are required for gas customers. This also applies to the Chinese mainland associates and joint ventures where there is no significant concentration of sales to any individual customer. Other non-current assets mainly represent aviation fuel facility construction receivable. Management considered that counterparty default risk is low and there is no history of default in repayment. Debt securities, derivative financial instruments entered with financial institutions and cash transactions counter parties are mostly with good credit rating of investment grade or above. The Group has policies that limit the amount of credit exposure to any one financial institution.

The Group monitors the exposure to credit risk in respect of the financial assistance provided to its joint ventures and associates through exercising joint control or influence over their financial and operating policy decisions and reviewing their financial positions on a regular basis.

**3 Financial risk management** (Continued)

*Financial risk factors* (Continued)

**(b) Credit risk** (Continued)

The credit quality of financial assets can be assessed by reference to external credit ratings (if available) or to historical information about counterparty default rates is as follows:

	2022	2021
	%	%
Cash and bank deposits		
AA	1.4	2.1
A	80.3	58.7
BBB	13.1	31.4
Unrated	5.2	7.8
	100.0	100.0
Debt securities		
AA	6.0	10.2
A	18.7	21.0
BBB	–	1.7
BB	1.3	–
Unrated	74.0	67.1
	100.0	100.0
Derivative financial instruments		
AA	41.4	3.5
A	58.6	94.5
BBB	–	2.0
	100.0	100.0

Credit ratings are quoted from Bloomberg.

Credit quality of loan and other receivables from associates, loan and other receivables from joint ventures, other non-current assets and trade and other receivables are disclosed in notes 21, 22, 27 and 29 respectively to the consolidated financial statements.

The Group has several types of financial assets that are subject to the expected credit loss model, including trade receivables, other receivables, loan and other receivables from associates, joint ventures and non-controlling shareholders, aviation fuel facility construction receivable and debt investments carried at amortised cost or FVOCI. While cash and cash equivalents are also subject to the impairment requirements of HKFRS 9, the identified impairment loss was immaterial.

### 3 Financial risk management (Continued)

#### Financial risk factors (Continued)

#### (b) Credit risk (Continued)

##### Trade receivables and contract assets

The Group applies the simplified approach to provide for expected credit losses prescribed by HKFRS 9, which permits the use of the lifetime expected credit loss provision for trade receivables and contract assets. The expected credit loss provision rates for trade receivables and contract assets are based on historical payment profiles and historical credit loss experience, adjusted to reflect, where relevant and appropriate, current and information specific to the debtors, future economic and market conditions and forward-looking information on macroeconomic factors (e.g. Gross Domestic Product) affecting the ability of the debtors to settle the receivables that the Group considers are reasonable and appropriate. To measure the expected credit losses, trade receivables and contract assets have been grouped based on the days past due. The gross carrying amount of the trade receivables, contract assets and the loss allowance provision analysed by aging band are set out below:

	Current	1-30 days	31-60 days	61-90 days	Over 90 days	Total
<b>31st December 2022</b>						
Expected loss rate	0.1%	0.2%	1.2%	3.0%	48.8%	5.2%
Gross carrying amount – trade receivables and contract assets (HK\$'M)	3,654.6	1,004.1	132.2	95.1	570.1	5,456.1
Loss allowance (HK\$'M)	1.5	2.3	1.6	2.8	278.2	286.4
<b>31st December 2021</b>						
Expected loss rate	0.3%	0.3%	2.3%	4.0%	44.8%	4.9%
Gross carrying amount – trade receivables and contract assets (HK\$'M)	3,267.0	1,040.0	103.9	105.4	512.5	5,028.8
Loss allowance (HK\$'M)	6.9	3.3	2.4	4.2	229.4	246.2

The closing loss allowances for trade receivables and contract assets as at 31st December 2022 and 2021 reconcile to the opening loss allowances as follows:

	Loss allowances for trade receivables and contract assets	
	2022 HK\$'M	2021 HK\$'M
At 1st January	246.2	300.9
Increase in loss allowance recognised in the profit or loss during the year (note 10)	73.9	39.7
Receivables written off during the year as uncollectible	(13.3)	(99.0)
Unused amount reversed	(9.9)	(2.9)
Exchange differences	(10.5)	7.5
At 31st December (note 29(a))	286.4	246.2

### 3 Financial risk management (Continued)

#### *Financial risk factors (Continued)*

#### (b) Credit risk (Continued)

##### *Trade receivables and contract assets (Continued)*

A provision for impairment is established when there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include, amongst others, the failure of a debtor to engage in a repayment plan with the Group, and a failure to make contractual payments after certain periods of time.

##### *Other receivables, loans and other receivables from associates, joint ventures and non-controlling shareholders, and aviation fuel facility construction receivable*

Impairment on other receivables, loans and other receivables from associates, joint ventures and non-controlling shareholders, and aviation fuel facility construction receivable are measured as either 12-month expected credit losses or lifetime expected credit losses, depending on whether there has been a significant increase in credit risk since initial recognition. If a significant increase in credit risk of a receivable has occurred since initial recognition, then loss allowance is measured as lifetime expected credit losses.

The Group applies 12-month expected credit loss model under HKFRS 9 and considers there is no significant increase in credit risk since initial recognition. The loss allowance for other receivables and loans and other receivables from associates, joint ventures and non-controlling shareholders as a result of applying the expected credit loss model was immaterial.

##### *Other financial investments*

All of the Group's debt investments at FVOCI are considered to have low credit risk, and the loss allowance recognised during the year was therefore limited to 12-month expected credit losses. Management consider 'low credit risk' for most of the listed bonds to be an investment grade credit rating with at least one major rating agency. Other instruments are considered to be low credit risk where they have a low risk of default. The issuers have a strong capacity to meet its contractual cash flow obligations in the near term.

Taking into account the ongoing dealings with counterparties and securities pledged by the counterparties, management consider 'low credit risk' for the derivative financial instruments.

#### (c) Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of credit facilities and the ability to close out market positions. Due to the dynamic nature of the underlying businesses, Group Treasury aims to maintain flexibility in funding by keeping adequate free cash and credit lines available.

The Group determines that there is no significant liquidity risk in view of the adequate and stable sources of funds and unutilised banking facilities.

### 3 Financial risk management (Continued)

#### *Financial risk factors* (Continued)

##### (c) Liquidity risk (Continued)

The table below analyses the Group's major financial liabilities into relevant maturity groupings based on the remaining period at the date of statement of financial position to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows, except for derivative financial instruments. Non-interest-bearing balances due within 12 months equal their carrying balances, as the impact of discounting is not significant.

	Less than 1 year HK\$'M	Between 1 and 2 years HK\$'M	Between 2 and 5 years HK\$'M	Over 5 years HK\$'M
<b>At 31st December 2022</b>				
Trade and other payables	10,112.3	–	–	–
Loan and other payables to joint ventures	263.4	–	113.1	–
Loan and other payables to non-controlling shareholders	163.4	15.6	153.8	–
Borrowings	21,550.3	9,287.3	23,876.6	14,115.5
Lease liabilities	170.8	124.7	128.8	57.9
Derivative financial instruments	–	21.1	254.3	18.9
<b>At 31st December 2021</b>				
Trade and other payables	6,425.3	–	–	–
Loan and other payables to joint ventures	189.5	–	–	–
Loan and other payables to non-controlling shareholders	159.4	40.8	98.5	–
Borrowings	20,031.5	7,906.0	20,284.6	15,708.7
Lease liabilities	114.6	85.4	115.0	61.4
Derivative financial instruments	511.0	70.7	776.7	9.6

The customers' deposits are not presented in the above liquidity analysis as management considers it is not practical to allocate the deposits into maturity groupings and the net movement in customers' deposits is not significant based on past experience.

#### *Capital risk management*

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, buy back existing shares, drawdown and repay borrowings, issue and redeem perpetual capital securities, issue new shares or convertible bonds, sell assets to reduce debt.

The Group monitors capital on the basis of the gearing ratio. This ratio is calculated as net borrowing divided by total equity and net borrowing. Net borrowing is calculated as total borrowings, less time deposits, cash and bank deposits as shown in the consolidated statement of financial position.

### 3 Financial risk management (Continued)

#### *Capital risk management* (Continued)

The gearing ratios at 31st December 2022 and 2021 are as follows:

	2022 HK\$'M	2021 HK\$'M
Total borrowings	(59,304.0)	(55,111.1)
Less: Time deposits, cash and bank deposits	13,293.5	10,634.9
Net borrowing	(46,010.5)	(44,476.2)
Total equity	(75,138.7)	(81,838.8)
Net borrowing	(46,010.5)	(44,476.2)
	(121,149.2)	(126,315.0)
Gearing ratio	38%	35%

#### *Fair value estimation*

The Group's financial instruments are measured in the statement of financial position at fair value, this requires disclosure of fair value measurements by level of the following fair value measurement hierarchy:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities (level 1).
- Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices) (level 2).
- Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs) (level 3).

The following table presents the Group's financial assets and financial liabilities that are measured at fair value at 31st December 2022 and 2021.

HK\$'M	Level 1		Level 2		Level 3		Total	
	2022	2021	2022	2021	2022	2021	2022	2021
<b>Financial assets</b>								
Financial assets at FVPL								
– Debt securities	248.4	284.2	–	–	–	–	248.4	284.2
– Equity investments	1,218.3	1,498.0	–	–	3,318.7	3,265.4	4,537.0	4,763.4
Derivative financial instruments	–	–	62.5	71.1	241.8	262.8	304.3	333.9
Financial assets at FVOCI								
– Debt securities	87.1	139.2	–	–	–	–	87.1	139.2
– Equity investments	1,257.4	1,599.0	–	–	418.8	432.3	1,676.2	2,031.3
<b>Total financial assets</b>	<b>2,811.2</b>	<b>3,520.4</b>	<b>62.5</b>	<b>71.1</b>	<b>3,979.3</b>	<b>3,960.5</b>	<b>6,853.0</b>	<b>7,552.0</b>
<b>Financial liabilities</b>								
Other payables	–	–	–	–	154.0	154.0	154.0	154.0
Derivative financial instruments	–	–	93.6	591.3	200.7	776.6	294.3	1,367.9
<b>Total financial liabilities</b>	<b>–</b>	<b>–</b>	<b>93.6</b>	<b>591.3</b>	<b>354.7</b>	<b>930.6</b>	<b>448.3</b>	<b>1,521.9</b>

### 3 Financial risk management (Continued)

#### *Fair value estimation (Continued)*

There are no changes in valuation techniques during the year.

The fair value of financial instruments traded in active markets is based on quoted market prices at the end of the reporting year. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Group is the current bid price. These instruments are included in level 1.

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. These valuation techniques maximise the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in level 2.

Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer quotes for similar instruments.
- The fair value of cross currency swaps is calculated as the present value of the estimated future cash flows based on observable foreign exchange rates and yield curves.
- The fair value of interest rate swaps is calculated as the present value of the estimated future cash flows based on observable yield curves.
- The fair value of forward foreign exchange contracts is calculated as the present value of future cash flows based on the forward exchange rates at the end of the reporting period.

If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3.

- Financial assets include a total of approximately HK\$2.9 billion (2021: approximately HK\$3.2 billion) of an unlisted equity investment and its related derivative, which are considered entirely as financial assets at fair value through profit or loss. In respect of the unlisted equity investment, the fair value is determined based on the discounted cash flow model. The significant unobservable inputs include discount rate of 15.0 per cent (2021: 12.0 per cent), sales price, sales volume and expected free cash flows of the investee. The fair value decreases with the increase in the discount rate, and increases with the increase in the sales price, sales volume or expected free cash flows of the investee. In respect of the related derivative, the fair value is determined based on the binomial and black scholes models. The significant unobservable inputs, except for those included in the fair value of the unlisted equity investment, mainly include 54.8 per cent (2021: 47.9 per cent) expected volatility of the fair value of the unlisted equity investment. The fair value increases with the increase in the expected volatility.
- Financial assets also include derivative financial instrument of approximately HK\$0.2 billion (2021: approximately HK\$0.3 billion), the fair value is determined based on the binomial model. The significant unobservable inputs include discount rate of 15.8 per cent (2021: 10.2 per cent) and share price expected volatility of the fair value of the underlying equity instrument of 42.4 per cent (2021: 36.2 per cent). The fair value movement was caused by the change in discount rate and share price expected volatility.
- Financial assets also include unlisted equity investments of approximately HK\$0.8 billion (2021: approximately HK\$0.5 billion), the fair values of which are determined with reference to their attributable net assets values and recent comparable transaction price, where available, being significant unobservable inputs. The fair value increases with the increase in the attributable net assets value and recent comparable transaction price, where available.

### 3 Financial risk management (Continued)

#### *Fair value estimation* (Continued)

- Financial liabilities include contingent consideration of approximately HK\$0.2 billion (2021: approximately HK\$0.2 billion), which is resulted by the further acquisition of a subsidiary in 2015 under other payables in level 3. The fair value is determined based on discounted cash flow model. The significant unobservable inputs include discount rate of 3.1 per cent (2021: 3.1 per cent) and the rate of probability on the outflow of resources will be required to settle the obligation. The fair value movement, if any, was caused by the change in the discount rate and the change in the rate of probability.
- Financial liabilities also include embedded derivative component of convertible bonds of approximately HK\$0.2 billion (2021: approximately HK\$0.8 billion), the fair value of which is determined based on binomial option pricing model. The significant unobservable inputs include share price expected volatility of 39.9 per cent (2021: 34.1 per cent). The fair value of convertible bonds increases with the increase in the share price expected volatility.

The following table presents the changes in level 3 instruments of the Group for the year ended 31st December 2022 and 2021:

	Financial assets		Financial liabilities	
	2022 HK\$M	2021 HK\$M	2022 HK\$M	2021 HK\$M
At 1st January	3,960.5	3,752.2	930.6	154.0
Additions	366.9	164.8	–	409.4
Disposal	(59.0)	–	–	–
Change in fair value	43.0	(47.7)	(531.5)	358.6
Exchange differences	(332.1)	91.2	(44.4)	8.6
At 31st December	3,979.3	3,960.5	354.7	930.6

The carrying amounts of financial assets and financial liabilities recorded at amortised cost in the consolidated financial statements approximate their fair values.

### 4 Critical accounting estimates and judgements

Estimates and judgements are continually evaluated by management and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Management incorporates their assessment on the impact arising from the ongoing development of the COVID-19 pandemic and other relevant global political and economic situation into their evaluation.

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results.

#### (a) Estimated impairment of assets

The Group tests annually whether goodwill has suffered any impairment or whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Other assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets exceeds its recoverable amount. The recoverable amounts of the assets and cash-generating units have been determined based on the higher of fair value less costs of disposal and value-in-use calculations, and reflecting management's latest business plans and strategies in light of the latest market environment and the management's assessment on the business prospect thereof as of 31st December 2022. These calculations require the use of estimates which includes the following key assumptions as detailed below:

## 4 Critical accounting estimates and judgements (Continued)

### (a) Estimated impairment of assets (Continued)

#### *Mining and oil properties in the Chinese mainland and Thailand*

In respect to the Group's mining and oil properties in the Chinese mainland and Thailand respectively (under New Energy business segment), the Group tested them for impairment by estimating the recoverable amount of these projects as at 31st December 2022. The key assumptions adopted in the tests were coal and oil reserves, future business growth, future products selling prices and production costs, production volume and discount rate of 12.0 per cent to 12.7 per cent (2021: 10.0 per cent to 11.2 per cent). Based on the result of the tests, no impairment loss was recognised in the profit or loss for the year ended 31st December 2022 (2021: Nil). Assuming projected revenue decreased by 5.0 per cent and 3.0 per cent for mining and oil properties respectively or the discount rate increased by 100 basis point, the recoverable amount calculated for each of these projects would not result in a material loss to the Group.

#### *Chemical production project in the Chinese mainland*

In respect to a chemical production project of the Group in the Chinese mainland which produces industrial chemical products including methanol (under New Energy business segment), the Group tested it for impairment by estimating the recoverable amount of the project as at 31st December 2022. The key assumptions adopted in the test were future business growth, future products selling prices and production costs, production volume and discount rate of 10.0 per cent (2021: 10.0 per cent). Based on the result of the test, no impairment loss was recognised in the profit or loss for the year ended 31st December 2022 (2021: impairment loss of HK\$731.0 million against property, plant and equipment and HK\$25.1 million against goodwill). Assuming projected revenue and projected production costs decreased by 5.0 per cent or the discount rate increased by 100 basis point, the recoverable amount calculated for the project would not result in a material loss to the Group.

#### *Interest in an associate, Shanghai Gas Co., Ltd. ("Shanghai Gas")*

In view of the operating losses of Shanghai Gas which is an indication of impairment, the management of the Group performed impairment assessment on interest in Shanghai Gas as a single asset at 31st December 2022. The key inputs and assumptions for the fair value less costs of disposal performed by an independent qualified professional valuer engaged by the Group and approved by the management of the Group are discounted cash flow forecast based on budget approved by management of Shanghai Gas, long-term growth rate and discount rate. Management estimates a discount rate of 11 per cent that reflects current market assessments of the time value of money and the risks specific to Shanghai Gas. The inputs and assumptions made in the budget are based on historical performance of Shanghai Gas and economic data relevant to the industry or the region. Cash flows beyond 5-year period have been extrapolated using growth rate of 2 per cent per annum, which is based on industry growth forecasts. Determining whether impairment loss should be recognised requires an estimation of the recoverable amount of the associate which is the higher of value in use and fair value less costs of disposal. As the recoverable amount based on fair value less costs of disposal is higher than the carrying amount of the interest in Shanghai Gas and the management of the Group considered that no impairment loss has been recognised as at 31st December 2022, the management of the Group is not required to assess the value in use. The fair value is derived from discount cash flow method under the income approach, by using key inputs and assumptions including discounted cash flow forecast based on budget approved by management of Shanghai Gas, long-term growth rate and discount rate. In cases where the actual cash flows are less than expected, or change in facts and circumstances which result in revision of future cash flows estimation, a material recognition of impairment may arise, which would be recognised in profit or loss for the period in which such a recognition takes place.

## 4 Critical accounting estimates and judgements (Continued)

### (b) Property, plant and equipment

The Group's management determines the estimated useful lives and related depreciation charges for its property, plant and equipment. This estimate is based on the historical experience of the actual useful lives of the property, plant and equipment of similar nature and functions. It could change significantly as a result of technical innovation. Management will change the depreciation charge where useful lives are different from the previously estimated lives. It will also write off or write down technically obsolete or non-strategic assets that have been abandoned or sold. For cost incurred and capitalised as property, plant and equipment, management assessed whether the Group has control over these assets based on relevant regulations and the terms as stipulated in the relevant agreements, where applicable.

### (c) Estimate of fair value of investment property

The valuation of investment properties (including those held by an associate) is performed in accordance with The HKIS Valuation Standards (2020 Edition) published by HKIS and the 'International Valuation Standards' published by the International Valuation Standards Committee. The valuation is reviewed annually by qualified valuers by considering the information from a variety of sources including:

- current prices in an active market for properties of different nature, condition or location, adjusted to reflect those differences;
- recent prices of similar properties in less active markets, with adjustments to reflect any changes in economic conditions since the date of the transactions that occurred at those prices; and
- rental income derived from the terms of any existing lease and other contracts, and (where possible) from external evidence such as current market rents for similar properties in the same location and condition, and using capitalisation rates that reflect current market assessments of the uncertainty in the amount and timing of the rental income.

If information on current or recent prices of investment properties is not available, the fair values of investment properties are mainly determined using income capitalisation valuation techniques. The Group uses assumptions that are mainly based on market conditions existing at each date of statement of financial position.

The principal assumptions underlying management's estimation of fair value are those related to the capitalisation rate and market rentals. These valuations are regularly compared to actual market yield data, and actual transactions by the Group and those reported by the market.

### (d) Estimate of gas and water consumption

Revenue for gas and water supply may include an estimation of the gas and water supplied to the customers of which actual meter reading is not available. The estimation is done mainly based on the past consumption records and recent consumption pattern of the customers. As of the year-end date, the overall billed gas and water sales are in line with the gas and water supplied to the customers.

## **4 Critical accounting estimates and judgements** (Continued)

### **(e) Recognition of gas connection income and allocation of transaction price**

#### *Critical judgements in recognising revenue*

Gas connection income is recognised when or as the control of the underlying performance over time, the progress towards complete satisfaction of the performance obligation is measured using input method. Management are required to exercise significant judgement in their review and revision of the estimates of the total contract costs and actual costs incurred up to the end of the reporting period for each contract as the contract progresses, based on past experience and specific circumstances.

#### *Critical judgements in allocating the transaction price*

Some gas connection contracts include installation services. Because these contracts include performance obligations, the transaction price must be allocated to the performance obligations on a relative stand-alone selling price basis.

Management estimates that the stand-alone selling price at contract inception based on expected cost plus a margin approach for installation services and residual approach for connection services.

### **(f) Reserves estimates**

Reserves are estimates of the amount of product that can be economically and legally extracted from the Group's mining and oil properties for coal mines in the Chinese mainland and oil concession in Thailand. In order to calculate reserves, estimates and assumptions are required about a range of geological, technical and economic factors, including quantities, grades, production techniques, recovery rates, production costs, transport costs, commodity demand and commodity prices.

Estimating the quantity and/or grade of reserves requires the size, shape and depth of ore bodies or fields to be determined by analysing geological data such as drilling samples. This process may require complex and difficult geological judgements and calculations to interpret the data.

Because the economic assumptions used to estimate reserves changes from period to period, and because additional geological data is generated during the course of operations, estimates of reserves may change from period to period. Changes in reported reserves may affect the Group's financial results and financial position in a number of ways, including the following:

- Asset carrying values may be affected due to changes in estimated future cash flows.
- Depreciation charged in the profit or loss may change where such charges are determined by the units of production basis, or where the useful economic lives of assets change.
- Decommissioning, site restoration and environmental provisions may change where changes in estimated reserves affect expectations about the timing or cost of these activities.

### **(g) Estimate of fair value of equity investments**

The fair value of financial assets that are not traded in an active market is determined by using valuation techniques. The Group uses its judgement to select a variety of methods (such as discounted cash flow model) and makes assumptions that are mainly based on market conditions existing at each date of statement of financial position. Details of the key assumptions used and the impact of changes to these assumptions are described in note 3.

## 5 Segment information

The Group's principal activities are the production, distribution and marketing of gas, water supply and emerging environmentally-friendly energy businesses ("New Energy") in Hong Kong and the Chinese mainland. The revenue comprises the following:

	2022 HK\$'M	2021 HK\$'M
Gas sales before fuel cost adjustment	42,267.5	37,434.0
Fuel cost adjustment	1,348.2	806.7
Gas sales after fuel cost adjustment	43,615.7	38,240.7
Gas connection income	3,589.8	3,924.4
Equipment sales and maintenance services	3,829.1	3,456.3
Water and related sales	1,785.4	1,762.7
Oil and coal related sales	1,272.0	1,158.7
Biomass utilisation businesses (previously known as "Hydro-treated vegetable oil related sales")	4,013.0	2,604.9
Other sales	2,848.4	2,416.0
	<b>60,953.4</b>	<b>53,563.7</b>

The chief operating decision-maker has been identified as the executive committee members (the "ECM") of the Company. The ECM reviews the Group's internal reporting in order to assess performance and allocate resources. The ECM considers the business from both product and geographical perspectives. From a product perspective, management assesses the performance of (a) gas, water and related businesses; (b) New Energy and (c) property business. Gas, water and related businesses are further evaluated on a geographic basis (Hong Kong and the Chinese mainland).

The ECM assesses the performance of the operating segments based on a measure of adjusted profit before interest, tax, depreciation and amortisation (the "adjusted EBITDA"). Other information provided, except as noted below, to the ECM is measured in a manner consistent with that in the consolidated financial statements.

## 5 Segment information (Continued)

The segment information provided to the ECM for the reportable segments is as follows:

2022 HK\$'M	Gas, water and related businesses		New Energy	Property	Other segments	Total
	Hong Kong	Chinese mainland				
Revenue recognised at a point in time	10,589.9	39,982.7	7,410.2	–	224.4	58,207.2
Revenue recognised over time	–	1,134.0	–	–	1,036.1	2,170.1
Finance and rental income	–	–	511.9	64.2	–	576.1
	10,589.9	41,116.7	7,922.1	64.2	1,260.5	60,953.4
Adjusted EBITDA	5,186.1	5,448.9	1,261.0	36.4	114.0	12,046.4
Depreciation and amortisation	(874.6)	(1,914.0)	(465.8)	–	(191.7)	(3,446.1)
Unallocated expenses						(238.6)
						8,361.7
Other gains, net						531.0
Interest expense						(1,775.8)
Share of results of associates (note)	–	704.0	(156.7)	316.4	1.5	865.2
Share of results of joint ventures	–	191.7	0.5	10.4	(1.1)	201.5
Profit before taxation						8,183.6
Taxation						(1,859.2)
Profit for the year						6,324.4

### Note

Share of results of associates includes share of fair value loss of HK\$62.0 million for the year (2021: Nil) related to the Group's investment in the International Finance Centre (the "IFC") complex held via an associate.

**5 Segment information** (Continued)

2021 HK\$'M	Gas, water and related businesses		New Energy	Property	Other segments	Total
	Hong Kong	Chinese mainland				
Revenue recognised at a point in time	9,982.4	35,104.0	5,657.3	–	231.4	50,975.1
Revenue recognised over time	–	1,192.0	–	–	863.0	2,055.0
Finance and rental income	–	–	474.1	59.5	–	533.6
	9,982.4	36,296.0	6,131.4	59.5	1,094.4	53,563.7
Adjusted EBITDA	4,886.0	6,505.2	1,053.4	30.5	227.3	12,702.4
Depreciation and amortisation	(871.2)	(1,781.2)	(401.4)	–	(186.6)	(3,240.4)
Unallocated expenses						(642.3)
						8,819.7
Other losses, net						(1,563.3)
Interest expense						(1,408.2)
Share of results of associates	–	1,355.8	94.5	431.6	3.7	1,885.6
Share of results of joint ventures	–	638.1	1.0	10.6	(2.8)	646.9
Profit before taxation						8,380.7
Taxation						(2,155.0)
Profit for the year						6,225.7

The segment assets at 31st December 2022 and 2021 are as follows:

2022 HK\$'M	Gas, water and related businesses		New Energy	Property	Other segments	Total
	Hong Kong	Chinese mainland				
Segment assets	19,005.7	97,585.7	22,261.6	15,846.5	4,729.7	159,429.2
Unallocated assets:						
Financial assets at FVOCI						1,763.3
Financial assets at FVPL						4,785.4
Time deposits, cash and bank balances excluded from segment assets						1,179.0
Others (note)						1,312.4
Total assets						168,469.3

## 5 Segment information (Continued)

2021 HK\$'M	Gas, water and related businesses		New Energy	Property	Other segments	Total
	Hong Kong	Chinese mainland				
Segment assets	18,952.2	100,401.4	18,398.3	15,752.3	4,591.5	158,095.7
Unallocated assets:						
Financial assets at FVOCI						2,170.5
Financial assets at FVPL						5,047.6
Time deposits, cash and bank balances excluded from segment assets						1,314.0
Others (note)						1,439.6
<b>Total assets</b>						<b>168,067.4</b>

### Note

Other unallocated assets mainly include other receivables other than those included under segment assets, retirement benefit assets, derivative financial instruments and loan and other receivables from non-controlling shareholders.

The Company is domiciled in Hong Kong. The Group's revenue from external customers in Hong Kong for the year ended 31st December 2022 is HK\$12,487.8 million (2021: HK\$11,728.9 million), and the revenue from external customers in the Chinese mainland and other geographical locations is HK\$48,465.6 million (2021: HK\$41,834.8 million).

At 31st December 2022, the total of non-current assets other than financial instruments located in Hong Kong is HK\$35,636.5 million (2021: HK\$35,093.8 million), and the total of non-current assets other than financial instruments located in the Chinese mainland and other geographical locations is HK\$97,344.8 million (2021: HK\$101,235.8 million).

For the years ended 31st December 2022 and 2021, the percentage of revenues attributable to the Group's five largest customers is less than 30 per cent.

## 6 Total operating expenses

	2022 HK\$'M	2021 HK\$'M
Stores and materials used	39,308.9	32,591.8
Manpower costs (note 11)	3,741.0	3,623.8
Depreciation and amortisation	3,525.4	3,288.6
Other operating items	6,016.4	5,239.8
	<b>52,591.7</b>	<b>44,744.0</b>

**7 Other gains/(losses), net**

	2022 HK\$'M	2021 HK\$'M
Net investment gains (note 8)	98.1	354.9
Fair value gain on investment property (note 17)	145.0	22.0
Provision for assets (note)	(240.0)	(1,531.7)
Ineffective portion on cash flow hedges (note 25)	(3.6)	4.9
Change in fair value of embedded derivative component of convertible bonds (note 32(b))	531.5	(358.6)
Others	–	(54.8)
	531.0	(1,563.3)

## Note

For the year ended 31st December 2022, the amount mainly included impairment provision against goodwill of HK\$145.0 million in relation to a city-gas joint venture in the Chinese mainland and included impairment provision against property, plant and equipment and right-of-use assets of HK\$68.8 million and HK\$21.2 million respectively under the New Energy business segment.

For the year ended 31st December 2021, the amount included impairment provision against goodwill of HK\$25.1 million and property, plant and equipment of HK\$731.0 million in relation to a chemical production project under New Energy business segment, and included impairment provision against goodwill of HK\$89.3 million and property, plant and equipment of HK\$31.0 million in relation to several city-gas projects in the Chinese mainland. The remaining balance was provided mainly for other projects under the New Energy business segment and other segments.

**8 Net investment gains**

	2022 HK\$'M	2021 HK\$'M
<b>(a) Interest income</b>		
Bank deposits	145.8	105.4
Listed financial assets at FVOCI	2.1	2.2
Loans to associates and joint ventures	40.1	51.5
Others	16.5	11.9
	204.5	171.0
<b>(b) Net realised and unrealised (losses)/gains and interest income on financial assets at FVPL and derivative financial instruments</b>		
Listed securities	(129.2)	(31.8)
Unlisted securities	(32.5)	(23.3)
Exchange differences	(21.3)	2.3
	(183.0)	(52.8)
<b>(c) Net realised and unrealised gains on financial assets at FVOCI</b>		
Exchange differences	0.3	1.7
	0.3	1.7
<b>(d) Dividend income</b>		
Listed financial assets at FVPL	51.0	43.2
Listed financial assets at FVOCI	68.7	48.2
Unlisted financial assets at FVOCI	48.0	61.9
	167.7	153.3
<b>(e) Exchange (losses)/gains</b>	(91.4)	81.7
	98.1	354.9

## 9 Interest expense

	2022 HK\$'M	2021 HK\$'M
Interest on bank loans and overdrafts wholly repayable within five years	1,158.8	906.6
Interest on guaranteed notes wholly repayable within five years	379.4	271.7
Interest on guaranteed notes not wholly repayable within five years	296.2	354.3
Interest on convertible bonds (note 32(b))	77.1	9.3
Interest on lease liabilities	18.9	13.5
	<b>1,930.4</b>	<b>1,555.4</b>
Less: amount capitalised	<b>(154.6)</b>	<b>(147.2)</b>
	<b>1,775.8</b>	<b>1,408.2</b>

The interest expense is capitalised at average rates from 2.10 per cent to 4.79 per cent (2021: 2.59 per cent to 6.18 per cent) per annum.

## 10 Profit before taxation

Profit before taxation is stated after charging and (crediting) the following:

	2022 HK\$'M	2021 HK\$'M
Cost of inventories sold	38,008.1	32,045.3
Depreciation and amortisation	3,525.4	3,288.6
Loss on disposal/write off of property, plant and equipment	210.8	18.4
Loss/(gain) on disposal of right-of-use assets	34.9	(26.0)
Impairment loss of trade receivables (note 3(b))	73.9	39.7
Rental income from investment property		
– gross rental income	(64.2)	(59.5)
– outgoing expenses	27.5	28.8
Auditors' remuneration		
– audit services	35.7	32.7
– non-audit services	11.8	17.9
Net loss on residential maintenance (note)	81.1	81.5
Note		
Analysis of net loss on residential maintenance:		
Residential maintenance revenue	(219.3)	(218.9)
Less expenses:		
Manpower costs	175.0	175.1
Other operating and administrative expenses	125.4	125.3
Net loss	<b>81.1</b>	<b>81.5</b>

## 11 Manpower costs

### (a) Staff costs

	2022 HK\$'M	2021 HK\$'M
Salaries and wages	3,279.5	3,178.1
Pension costs – defined contribution retirement schemes	450.9	431.0
Pension costs – defined benefit retirement scheme (note 26)	10.6	14.7
	3,741.0	3,623.8

During 2021, a subsidiary of the Group issued equity-settled share-based payments to certain employees to allow them to invest indirectly in the equity interest in a subsidiary engaging in the New Energy business. Such expense of HK\$36.5 million was included in “Other gains/(losses), net” in the profit or loss.

### (b) Five highest paid individuals

The five individuals whose emoluments were the highest in the Group for the year include three (2021: three) directors whose emoluments are reflected in the analysis shown in note 12. Details of the emoluments payable to the remaining two (2021: two) individuals during the year are as follows:

	2022 HK\$'M	2021 HK\$'M
Fee, salaries, allowances and benefits in kind	5.2	5.2
Performance bonus	18.1	7.1
Contributions to retirement scheme	1.5	1.6
Share-based payment benefits	0.5	16.4
	25.3	30.3

Number of individuals whose emoluments fell within:

Emoluments band (HK\$'M)	2022	2021
20.0 – 20.5	–	1
16.5 – 17.0	1	–
9.5 – 10.0	–	1
8.0 – 8.5	1	–

### (c) Emoluments of senior management

Senior management for the years ended 31st December 2022 and 2021 were all executive directors of the Company whose emoluments have been shown in note 12.

## 12 Benefits and interests of directors

### (a) Directors' emoluments

Emoluments paid or payable to every director whether of the Company or its subsidiary undertaking

Name of director	Salary, allowances and benefits		Performance bonus	Contributions to retirement scheme	Sub-total	Others	Total
	Fees	in kind					
	HK\$'M	HK\$'M	HK\$'M	HK\$'M	HK\$'M	HK\$'M	HK\$'M
<b>2022</b>							
Alfred Chan Wing-kin (Managing Director) (note (i) and (ii))	0.2	6.4	4.0	2.3	12.9	-	12.9
Peter Wong Wai-yee (Managing Director) (note (i) and (ii))	0.5	6.2	18.4	5.2	30.3	0.9	31.2
John Ho Hon-ming (note (i))	0.5	4.9	6.9	2.2	14.5	0.5	15.0
Colin Lam Ko-yin	0.3	0.2	-	-	0.5	-	0.5
Lee Ka-kit (note (i))	1.0	0.1	-	-	1.1	-	1.1
Lee Ka-shing	0.7	0.1	-	-	0.8	-	0.8
David Li Kwok-po	0.7	0.1	-	-	0.8	-	0.8
Poon Chung-kwong	0.7	-	-	-	0.7	-	0.7
Moses Cheng Mo-chi	0.7	-	-	-	0.7	-	0.7
Andrew Fung Hau-chung (note (iii))	0.1	-	-	-	0.1	-	0.1
	5.4	18.0	29.3	9.7	62.4	1.4	63.8

#### Notes

- (i) Mr. Alfred Chan Wing-kin (before his retirement on 6th June 2022), Mr. Peter Wong Wai-yee, Mr. John Ho Hon-ming and Dr. Lee Ka-kit who are also directors of Towngas Smart Energy Company Limited ("Towngas Smart Energy"), a significant subsidiary of the Group. In this connection, the above emoluments included Mr. Alfred Chan Wing-kin, Mr. Peter Wong Wai-yee, Mr. John Ho Hon-ming and Dr. Lee Ka-kit each received directors' emoluments from Towngas Smart Energy approximately of HK\$0.1 million, HK\$9.5 million, HK\$6.7 million and HK\$0.3 million (2021: HK\$0.2 million, HK\$8.5 million, HK\$6.3 million and HK\$0.1 million) respectively, including share-based payments benefits of HK\$0.9 million and HK\$0.5 million received by Mr. Peter Wong Wai-yee and Mr. John Ho Hong-ming respectively from Towngas Smart Energy during the year (2021: Nil).
- (ii) Mr. Alfred Chan Wing-kin was retired and Mr. Peter Wong Wai-yee was appointed as Managing Director on 6th June 2022.
- (iii) Mr. Andrew Fung Hau-chung was appointed as non-executive director of the Company on 14th June 2022.

**12 Benefits and interests of directors** (Continued)**(a) Directors' emoluments** (Continued)

Emoluments paid or payable to every director whether of the  
Company or its subsidiary undertaking

Name of director	Salary, allowances and benefits		Performance bonus	Contributions to retirement scheme	Sub-total	Others	Total
	Fees HK\$'M	in kind HK\$'M					
2021							
Alfred Chan Wing-kin (Managing Director) (note (iv))	0.4	6.7	22.2	5.7	35.0	0.4	35.4
Peter Wong Wai-yee (Deputy Managing Director)	0.4	6.2	16.6	5.0	28.2	–	28.2
John Ho Hon-ming	0.4	5.3	6.0	2.3	14.0	–	14.0
Colin Lam Ko-yin	0.3	0.1	–	–	0.4	–	0.4
Lee Ka-kit	0.8	0.1	–	–	0.9	–	0.9
Lee Ka-shing	0.7	0.2	–	–	0.9	–	0.9
David Li Kwok-po	0.7	0.1	–	–	0.8	–	0.8
Poon Chung-kwong	0.7	–	–	–	0.7	–	0.7
Moses Cheng Mo-chi	0.7	–	–	–	0.7	–	0.7
	5.1	18.7	44.8	13.0	81.6	0.4	82.0

**Note**

(iv) During the year ended and as at 31st December 2021, 66,409 shares in EcoCeres, Inc., a non-wholly-owned subsidiary of the Company, were beneficially owned by Everwealth Investment A, L.P. (the "Limited Partnership"). Mr. Alfred Chan Wing-kin, as a limited partner, had committed to make capital contribution of approximately US\$2.2 million to the Limited Partnership representing more than one-third of the total capital contribution requirements of the Limited Partnership. The related equity-settled share-based payment benefits of HK\$0.4 million has been included in "Others" emoluments to Mr. Alfred Chan Wing-kin.

The above remuneration paid to directors of the Company also represents the amount of short-term employee benefits of HK\$52.7 million (2021: HK\$68.6 million), post-employment benefits of HK\$9.7 million (2021: HK\$13.0 million) and share-based payment benefits of HK\$1.4 million (2021: HK\$0.4 million) paid to the Group's key management personnel during the year ended 31st December 2022. There were no other long-term benefits and termination benefits paid to the Group's key management during the year (2021: Nil).

**(b) Directors' material interests in transactions, arrangements or contracts**

No significant transactions, arrangements or contracts in relation to the Group's business to which the Company was a party, and in which a director of the Company had a material interest, whether directly or indirectly, subsisted at the end of the year or at any time during the year (2021: Nil).

## 13 Taxation

The amount of taxation charged to the profit or loss represents:

	2022 HK\$'M	2021 HK\$'M
Current taxation – provision for Hong Kong Profits Tax at the rate of 16.5% (2021: 16.5%) on the estimated assessable profits for the year	815.5	741.5
Current taxation – provision for other jurisdictions income tax at the prevailing rates on the estimated assessable profits for the year (note)	837.6	1,066.9
Current taxation – (over)/under provision in prior years	(8.3)	10.2
Deferred taxation – origination and reversal of temporary differences	132.5	210.8
Withholding tax	81.9	125.6
	<b>1,859.2</b>	<b>2,155.0</b>

Note

The prevailing income tax rates of the Chinese mainland and Thailand range from 15 per cent to 25 per cent (2021: 15 per cent to 25 per cent) and 50 per cent (2021: 50 per cent) respectively.

The taxation on the Group's profit before taxation differs from the theoretical amount that would arise using the taxation rate of Hong Kong as follows:

	2022 HK\$'M	2021 HK\$'M
Profit before taxation	8,183.6	8,380.7
Less: Share of results of associates	(865.2)	(1,885.6)
Share of results of joint ventures	(201.5)	(646.9)
	<b>7,116.9</b>	<b>5,848.2</b>
Calculated at a tax rate of 16.5% (2021: 16.5%)	1,174.3	965.0
Effect of different tax rates in other jurisdictions	309.2	374.6
Income not subject to taxation	(236.3)	(101.6)
Expenses not deductible for taxation purposes	296.2	629.1
Utilisation of previously unrecognised tax losses	(19.8)	(15.1)
(Over)/under provision in prior years	(8.3)	10.2
Withholding tax	81.9	125.6
Unrecognised tax losses and others	262.0	167.2
	<b>1,859.2</b>	<b>2,155.0</b>

Share of associates' taxation for the year ended 31st December 2022 of HK\$590.4 million (2021: HK\$556.1 million) is included in the profit or loss as share of results of associates.

Share of joint ventures' taxation for the year ended 31st December 2022 of HK\$239.7 million (2021: HK\$448.9 million) is included in the profit or loss as share of results of joint ventures.

## 14 Dividends

	2022 HK\$'M	2021 HK\$'M
Interim, paid of HK12 cents per ordinary share (2021: HK12 cents per ordinary share)	2,239.2	2,239.2
Final, proposed of HK23 cents per ordinary share (2021: HK23 cents per ordinary share)	4,291.8	4,291.8
	<b>6,531.0</b>	<b>6,531.0</b>

At a meeting held on 17th March 2023, the directors of the Company declared a final dividend of HK23 cents per ordinary share for the year ended 31st December 2022. This proposed dividend is not reflected as a dividend payable in these consolidated financial statements, but will be reflected as an appropriation of retained earnings for the year ended 31st December 2022.

## 15 Earnings per share

The calculation of basic earnings per share is based on the profit attributable to shareholders of HK\$5,247.9 million (2021: HK\$5,017.0 million) and the weighted average of 18,659,870,098 shares (2021: 18,659,870,098 shares) in issue during the year. As there were no dilutive potential ordinary shares of the Company outstanding during the year, the weighted average number of shares used in calculating diluted earnings per share is the same as calculating basic earnings per share.

	2022 HK\$'M	2021 HK\$'M
<b>Earnings</b>		
Profit attributable to shareholders for the purpose of basic earnings per share	5,247.9	5,017.0
Effect of dilutive potential ordinary shares:		
Interests on convertible bonds, attributable to shareholders	51.2	–
Change in fair value of embedded derivative component of convertible bonds, attributable to shareholders	(357.3)	–
Reduction in share of subsidiaries' profits	(37.5)	–
Profit attributable to shareholders for the purpose of diluted earnings per share	<b>4,904.3</b>	<b>5,017.0</b>

The computation of diluted earnings per share for the year ended 31st December 2021 did not assume the conversion of all convertible bonds issued by a subsidiary as their assumed conversion would result in an increase in earnings per share. Accordingly, the diluted earnings per share for the year ended 31st December 2021 was the same as the basic earnings per share.

## 16 Property, plant and equipment

	Buildings, plant and equipment HK\$'M	Mains and risers HK\$'M	Meters and installations HK\$'M	Mining and oil properties HK\$'M	Others HK\$'M	Capital work in progress HK\$'M	Total HK\$'M
<b>Cost</b>							
At 1st January 2022	31,338.4	52,301.4	4,588.4	3,474.1	1,078.8	11,821.0	104,602.1
Additions	1,082.1	744.0	256.6	34.4	20.8	5,701.8	7,839.7
Transfers from capital work in progress	1,916.3	3,415.5	46.7	2.4	–	(5,380.9)	–
Disposals/write off	(417.5)	(14.1)	(111.5)	(1.0)	(20.8)	(135.6)	(700.5)
Exchange differences	(1,845.3)	(3,100.6)	(18.2)	(192.1)	(81.5)	(729.4)	(5,967.1)
At 31st December 2022	32,074.0	53,346.2	4,762.0	3,317.8	997.3	11,276.9	105,774.2
<b>Accumulated depreciation and impairment losses</b>							
At 1st January 2022	13,087.0	13,422.3	3,330.3	1,407.3	244.5	889.2	32,380.6
Charge for the year	1,482.9	1,447.5	289.1	39.1	36.8	–	3,295.4
Impairment	–	–	–	–	–	68.8	68.8
Disposals/write off	(322.1)	(4.6)	(91.1)	(0.2)	(3.1)	–	(421.1)
Exchange differences	(637.1)	(649.9)	(8.5)	(54.4)	(21.5)	3.1	(1,368.3)
At 31st December 2022	13,610.7	14,215.3	3,519.8	1,391.8	256.7	961.1	33,955.4
<b>Net book value</b>							
At 31st December 2022	18,463.3	39,130.9	1,242.2	1,926.0	740.6	10,315.8	71,818.8
At 31st December 2021	18,251.4	38,879.1	1,258.1	2,066.8	834.3	10,931.8	72,221.5

The carrying values of the property, plant and equipment related to a chemical production project in the Chinese mainland as at 31st December 2022 amounted to approximately HK\$2.6 billion (2021: HK\$2.9 billion) in total. An impairment loss of HK\$731.0 million was recognised in the profit or loss for the year ended 31st December 2021. No such provision was made for the year ended 31st December 2022 for the property, plant and equipment.

The additions to property, plant and equipment mainly included HK\$938.7 million (2021: HK\$998.4 million) and HK\$6,044.0 million (2021: HK\$4,948.0 million) in relation to gas, water and related businesses in Hong Kong and the Chinese mainland respectively. Remaining balance mainly included HK\$564.5 million (2021: HK\$807.5 million) in relation to New Energy business segment and HK\$292.5 million (2021: HK\$222.5 million) in other segments.

**16 Property, plant and equipment** (Continued)

	Buildings, plant and equipment HK\$'M	Mains and risers HK\$'M	Meters and installations HK\$'M	Mining and oil properties HK\$'M	Others HK\$'M	Capital work in progress HK\$'M	Total HK\$'M
<b>Cost</b>							
At 1st January 2021	27,987.9	46,861.3	4,369.2	3,770.0	987.9	12,057.3	96,033.6
Additions	1,411.2	713.1	311.3	23.3	58.9	4,458.6	6,976.4
Acquisition of businesses (note 42(a))	73.3	–	–	–	–	–	73.3
Transfers from capital work in progress	1,375.5	3,604.3	17.7	3.4	–	(5,000.9)	–
Disposals/write off	(214.2)	(35.9)	(115.6)	(3.2)	–	(7.4)	(376.3)
Exchange differences	704.7	1,158.6	5.8	(319.4)	32.0	313.4	1,895.1
At 31st December 2021	31,338.4	52,301.4	4,588.4	3,474.1	1,078.8	11,821.0	104,602.1
<b>Accumulated depreciation and impairment losses</b>							
At 1st January 2021	11,265.2	11,799.6	3,130.6	1,488.9	215.6	–	27,899.9
Charge for the year	1,372.8	1,364.4	292.7	23.3	21.0	–	3,074.2
Impairment	385.9	31.0	–	–	–	889.2	1,306.1
Disposals/write off	(161.3)	(6.2)	(96.2)	(1.0)	–	–	(264.7)
Exchange differences	224.4	233.5	3.2	(103.9)	7.9	–	365.1
At 31st December 2021	13,087.0	13,422.3	3,330.3	1,407.3	244.5	889.2	32,380.6
<b>Net book value</b>							
At 31st December 2021	18,251.4	38,879.1	1,258.1	2,066.8	834.3	10,931.8	72,221.5
At 31st December 2020	16,722.7	35,061.7	1,238.6	2,281.1	772.3	12,057.3	68,133.7

**17 Investment property**

	2022 HK\$'M	2021 HK\$'M
At 1st January	849.0	827.0
Additions	2.5	–
Fair value gain (note 7)	145.0	22.0
At 31st December	996.5	849.0

The Group's interest in the commercial investment property is located in Hong Kong under a land lease of over 50 years. The investment property was revalued at 31st December 2022 by an independent professionally qualified valuer, Knight Frank Petty Limited which conform to The HKIS Valuation Standards (2020 Edition) shown in note 2(h).

## 17 Investment property (Continued)

### *Fair value measurements using significant unobservable inputs*

Fair value of completed commercial property in Hong Kong is generally derived using the income capitalisation method. This valuation method is based on the capitalisation of the net income and reversionary income potential by adopting appropriate capitalisation rates, which are derived from analysis of sale transactions and valuer's interpretation of prevailing investor requirements or expectations. The prevailing market rents adopted in the valuation have reference to valuer's view of recent lettings, within the subject properties and other comparable properties.

Information about fair value measurements as at 31st December 2022 using significant unobservable inputs is as follows:

Unobservable inputs	Commercial complex	Car park	Relationship of unobservable inputs to fair value
Capitalisation rate	5.4%	5.4%	The higher the capitalisation rate, the lower the fair value
Monthly rent	HK\$19.1/sq.ft.	N/A	The higher the market rent, the higher the fair value

### *Valuation processes of the Group*

The Group's finance division includes a team that review and analyse the valuation performed by the independent valuer for financial reporting purposes. At each financial year end, the finance division:

- Verifies all major inputs to the independent valuation report;
- Assesses property valuation movements when compared with the prior year valuation report;
- Holds discussions with the independent valuer.

## 18 Right-of-use assets

	Prepaid leasehold land HK\$'M	Buildings, plant and equipment and others HK\$'M	Total HK\$'M
At 1st January 2022	2,637.5	301.2	2,938.7
Additions	141.8	258.0	399.8
Depreciation and amortisation	(73.0)	(145.1)	(218.1)
Impairment	(21.2)	–	(21.2)
Disposals	(81.8)	(1.5)	(83.3)
Exchange differences	(183.6)	(19.0)	(202.6)
At 31st December 2022	2,419.7	393.6	2,813.3

	Prepaid leasehold land HK\$'M	Buildings, plant and equipment and others HK\$'M	Total HK\$'M
At 1st January 2021	2,550.2	252.2	2,802.4
Additions	105.2	186.4	291.6
Acquisition of businesses (note 42(a))	6.5	–	6.5
Depreciation and amortisation	(74.3)	(139.2)	(213.5)
Disposals	(22.6)	(4.1)	(26.7)
Exchange differences	72.5	5.9	78.4
At 31st December 2021	2,637.5	301.2	2,938.7

## 18 Right-of-use assets (Continued)

The Group leases various land, office buildings and customer service centres. Rental contracts are made for a range of fixed periods but may have extension options. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

Some leases contain variable payment terms that are linked to sales or net profits generated. Variable lease payments that depend on sales or net profits are recognised in the profit or loss in the period in which the condition that triggers those payments occurs. Most leases are subject to fixed payments.

Extension and termination options are included in a number of leases across the Group. These terms are used to maximise operational flexibility in terms of managing contracts. The majority of extension and termination options held are exercisable only by the Group and not by the respective lessor. There are minimal lease contracts with extension or termination options.

## 19 Intangible assets

	2022 HK\$'M	2021 HK\$'M
<b>(a) Goodwill</b>		
At 1st January	5,103.6	5,081.3
Acquisition of businesses (note 42(a))	–	41.7
Impairment	–	(114.4)
Exchange differences	(222.7)	95.0
At 31st December	4,880.9	5,103.6
<b>(b) Other intangible assets</b>		
<b>Cost</b>		
At 1st January	665.5	522.9
Acquisition of businesses (note 42(a))	–	103.1
Additions	13.4	25.2
Exchange differences	(35.7)	14.3
At 31st December	643.2	665.5
<b>Accumulated amortisation</b>		
At 1st January	(161.9)	(141.3)
Amortisation	(23.9)	(22.6)
Exchange differences	1.9	2.0
At 31st December	(183.9)	(161.9)
<b>Net book value</b>		
At 31st December	459.3	503.6
<b>Total intangible assets</b>	<b>5,340.2</b>	<b>5,607.2</b>

## 19 Intangible assets (Continued)

Goodwill is allocated to an individual cash-generating unit and a group of cash-generating units that are expected to benefit from the business combination in which the goodwill arose, majority related to segment – gas, water and related businesses in the Chinese mainland. The goodwill balance included HK\$2.2 billion (2021: HK\$2.2 billion) related to the Group's investments in Towngas Smart Energy. The remaining balance mainly represents goodwill associated with individual city-gas projects (approximately HK\$2.6 billion as of 31st December 2022) (2021: HK\$2.7 billion). The Group tests goodwill annually for impairment, or more frequently if there are indications that it might be impaired. For the purpose of impairment test, the recoverable amount of the cash-generating units is determined based on either fair value less costs of disposal or value-in-use calculations. The key assumptions used in the value-in-use calculations are detailed in note 4(a). Management assesses the fair value less costs of disposal in relation to the investments in certain subsidiaries by referencing to their market values as at the end of the reporting period.

Based on impairment tests performed, no impairment provision on goodwill was recognised for the year ended 31st December 2022 (2021: HK\$114.4 million).

## 20 Subsidiaries

### Material non-controlling interests

The total non-controlling interest as at 31st December 2022 is HK\$11,527.0 million (2021: HK\$12,028.2 million) of which HK\$9,592.5 million (2021: HK\$8,855.4 million) is attributable to Towngas Smart Energy and the non-controlling interest in respect of other individual subsidiaries of the Group is not material.

Set out below are the summarised financial information of Towngas Smart Energy. The information below is the amount before inter-company eliminations.

<b>Summarised statement of financial position</b>	<b>2022 HK\$'M</b>	<b>2021 HK\$'M</b>
<b>Assets</b>		
Non-current assets	40,962.4	42,848.7
Current assets	8,183.8	7,535.9
	<b>49,146.2</b>	<b>50,384.6</b>
<b>Liabilities</b>		
Non-current liabilities	(12,415.8)	(12,681.3)
Current liabilities	(16,594.4)	(16,257.6)
	<b>(29,010.2)</b>	<b>(28,938.9)</b>
<b>Net assets</b>	<b>20,136.0</b>	<b>21,445.7</b>

**20 Subsidiaries** (Continued)**Material non-controlling interests** (Continued)

	2022	2021
<b>Summarised income statement and comprehensive income statement</b>	<b>HK\$'M</b>	<b>HK\$'M</b>
Revenue	20,073.0	17,125.4
Profit before taxation	1,552.5	2,144.8
Taxation	(351.5)	(617.7)
Profit for the year	1,201.0	1,527.1
Other comprehensive (loss)/income	(2,290.1)	640.1
Total comprehensive (loss)/income	(1,089.1)	2,167.2
Total comprehensive (loss)/income attributable to non-controlling interests	(229.8)	898.2
Dividend paid to non-controlling shareholders	304.2	275.3
<b>Summarised cash flows statement</b>	<b>2022</b>	<b>2021</b>
	<b>HK\$'M</b>	<b>HK\$'M</b>
Net cash from operating activities	1,339.6	2,253.0
Net cash used in investing activities	(3,165.4)	(7,858.1)
Net cash from financing activities	2,036.3	7,374.2
Net increase in cash and cash equivalents	210.5	1,769.1
Cash and cash equivalents at the beginning of the year	4,071.2	2,226.0
Effect of foreign exchange rate changes	(281.0)	76.1
Cash and cash equivalents at the end of the year	4,000.7	4,071.2

## 21 Associates

	2022 HK\$'M	2021 HK\$'M
Investments in associates, including goodwill	33,501.9	35,407.2
Loans to associates – non-current	676.2	742.7
	<b>34,178.1</b>	<b>36,149.9</b>
Loan and other receivables from associates – current	415.6	418.8
Fair value of listed investments	10,396.2	13,352.2

As at 31st December 2022, the Group's investments in associates, including goodwill in relation to the Chinese mainland's gas, water and related business, New Energy, Property and other segments amounted to HK\$18,609.6 million, HK\$89.4 million, HK\$14,770.6 million and HK\$32.3 million respectively (2021: HK\$20,268.0 million, HK\$263.5 million, HK\$14,842.9 million and HK\$32.8 million respectively).

Loan and other receivables from associates are analysed below:

- (i) Loans to associates in the Chinese mainland of HK\$1,012.0 million (2021: HK\$1,062.8 million) with effective interest rates ranging from 3.0 per cent to 7.2 per cent per annum (2021: 3.0 per cent to 7.2 per cent per annum) are unsecured and fully repayable during the period from 2023 to 2025 (2021: 2022 to 2023).
- (ii) The remaining balances are unsecured, interest free and have no fixed terms of repayment.
- (iii) Loan and other receivables from associates are considered to have low credit risk and the loss allowance recognised during the year was therefore limited to 12-month expected credit loss.
- (iv) Loan and other receivables are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
USD	566.8	567.0
RMB	523.9	593.0
HKD	1.1	1.5
	<b>1,091.8</b>	<b>1,161.5</b>

## Notes to the Consolidated Financial Statements

### 21 Associates (Continued)

Particulars of the principal associates as at 31st December 2022 are listed below:

Name	Note	Issued share capital/ Registered capital	Percentage of the Group's equity interest	Place of incorporation/ operation	Principal activity
China-Singapore Suzhou Industrial Park Broad Energy Services Co., Ltd.		RMB71.1 million	27.8	PRC	Cooling and heating system business
<sup>1</sup> 蘇州工業園區蘇相合作區港華 交通科技有限公司		RMB5.0 million	25	PRC	Electric vehicle charging
Hainan Petrochina Kunlun Hong Kong & China Gas Co., Ltd.		RMB50.4 million	49	PRC	Gas sales and related businesses
<sup>^</sup> Shenzhen Gas Corporation Ltd.		RMB2,876.8 million	26.5	PRC	Gas sales and related businesses
港華儲氣有限公司		RMB200.0 million	39	PRC	Gas storage project
<sup>1</sup> 蘇州元朔智慧能源有限公司		RMB15.0 million	27	PRC	Integrated energy project
Central Waterfront Property Investment Holdings Limited	(i)	US\$100	15.8	British Virgin Islands	Investment holding
GH-Fusion Limited	(ii)	US\$200	50	British Virgin Islands	Investment holding
蘇州工業園區蘇相合作區市政 公用發展有限公司		RMB50.0 million	49	PRC	Investment holding
河北金建佳天然氣有限公司		RMB90.0 million	20	PRC	LNG receiving terminal; pier
江蘇海企港華燃氣股份有限公司		RMB204.0 million	35	PRC	LNG refilling station for vessels
Hangzhou Natural Gas Company Limited		RMB1,195.0 million	32	PRC	Mid-stream natural gas and piped city-gas project
<sup>^</sup> Anhui Province Natural Gas Development Co., Ltd.		RMB470.4 million	20.6	PRC	Mid-stream natural gas project
Hebei Natural Gas Company Limited		RMB1,900.0 million	43	PRC	Mid-stream natural gas project
河南省中原石油天然氣管網 有限公司		RMB60.0 million	49	PRC	Mid-stream natural gas project
泰州城投天然氣有限公司		RMB150.0 million	47.6	PRC	Natural gas pipeline project
S&T International Natural Gas Trading Company Limited		HK\$21.0 million	40	Hong Kong	Natural gas trading

<sup>1</sup> Newly formed during the year

<sup>^</sup> A listed company on the Shanghai Stock Exchange

#### Notes

- (i) The Group has an effective interest of approximately 15.8 per cent in the IFC complex through its interest in Central Waterfront Property Investment Holdings Limited ("CWPI"). With the Group's presence on the board of directors of CWPI and participation in the financial and operating policies of the IFC complex, the Group could exercise significant influence over CWPI and accordingly the investment is accounted for as an associate.
- (ii) The Group can only exercise significant influence over the board of directors in the associate.

## 21 Associates (Continued)

Particulars of the principal associates as at 31st December 2022 are listed below: (Continued)

Name	Note	Issued share capital/ Registered capital	Percentage of the Group's equity interest	Place of incorporation/ operation	Principal activity
Towngas DETA Telecom (Dalian) Co., Ltd.		RMB10.0 million	49	PRC	Telecommunications business
深圳市互通聯寬帶網絡有限公司		RMB40.0 million	30	PRC	Telecommunications business
中經名氣網絡技術(北京)有限公司		RMB10.0 million	49	PRC	Telecommunications business
道勝環境產業有限公司		RMB1,000.0 million	49	PRC	Waste treatment project
# 佛山水務環保股份有限公司		RMB831.8 million	26.7	PRC	Water project
China-Singapore Suzhou Industrial Park Environmental Technology Co., Ltd.		RMB100.0 million	49	PRC	Water treatment project
Guangzhou Science City-Towngas Smart Energy Co., Ltd.		RMB100.0 million	49	PRC	Zero-carbon smart industrial park project
常州港華智慧能源有限公司		RMB201.0 million	22.6	PRC	Zero-carbon smart industrial park project
<b>Held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly.</b>					
四川能投分布式能源有限公司		RMB512.6 million	24.4	PRC	Distributed energy systems businesses
Zhuojia Public Engineering (Maanshan) Co., Ltd.		RMB12.0 million	37.5	PRC	Gas pipe assembly
Anguo Huagang Gas Company Limited		RMB20.0 million	49	PRC	Gas sales and related businesses
<sup>^</sup> Changchun Gas Co., Ltd.		RMB609.0 million	28.2	PRC	Gas sales and related businesses
Dalian DETA Towngas Co., Ltd.		RMB150.0 million	40	PRC	Gas sales and related businesses
<sup>Ω</sup> Foran Energy Group Co., Ltd.		RMB945.2 million	38.4	PRC	Gas sales and related businesses
Shandong Jihua Gas Co., Ltd.		RMB700.0 million	49	PRC	Gas sales and related businesses
Shanghai Gas Co., Ltd.	(i)	RMB1,333.3 million	25	PRC	Gas sales and related businesses
Zibo Lubo Gas Company Limited		RMB100.0 million	27	PRC	Gas sales and related businesses
撫州市撫北天然氣有限公司		RMB16.0 million	40	PRC	Gas sales and related businesses
臨朐港華燃氣有限公司		US\$10.6 million	42.4	PRC	Gas sales and related businesses
石家莊華博燃氣有限公司		RMB45.0 million	45	PRC	Gas sales and related businesses
Anhui Province Wenergy Towngas Natural Gas Company Limited		RMB240.0 million	49	PRC	Mid-stream natural gas project

# Direct associate of the Company

<sup>^</sup> A listed company on the Shanghai Stock Exchange

<sup>Ω</sup> A listed company on the Shenzhen Stock Exchange

### Note

- (i) For the year ended 31st December 2022, the Group has entered into a shareholders' agreement with Shenergy (Group) Company Limited ("Shenergy Group"), the controlling shareholder of Shanghai Gas, pursuant to which the financial results of Shanghai Gas for the period from 1st January 2022 to 30th June 2022 were borne by Shenergy Group.

## 21 Associates (Continued)

The following amounts represent the Group's share of income and results of the associates and are included in the consolidated income statement and statement of comprehensive income:

	2022 HK\$'M	2021 HK\$'M
Income	35,717.7	27,630.1
Expenses, including taxation	(34,852.5)	(25,744.5)
Profit after taxation	865.2	1,885.6
Other comprehensive loss	(11.5)	(3.5)
Total comprehensive income	853.7	1,882.1

Set out below are the summarised financial information of CWPI which is considered to be the only associate individually material to the Group and it is accounted for using the equity method. CWPI holds IFC complex as the commercial investment property for rental income in Hong Kong.

	CWPI	
	2022 HK\$'M	2021 HK\$'M
<b>Summarised statement of financial position</b>		
<b>Assets</b>		
Non-current assets	113,404.9	113,764.1
Current assets	543.6	501.2
	113,948.5	114,265.3
<b>Liabilities</b>		
Non-current liabilities	(18,605.9)	(18,491.7)
Current liabilities	(1,800.0)	(1,767.5)
	(20,405.9)	(20,259.2)
<b>Net assets</b>	93,542.6	94,006.1

## 21 Associates (Continued)

	CWPI	
	2022 HK\$'M	2021 HK\$'M
<b>Summarised income statement and statement of comprehensive income</b>		
Income	4,734.9	5,012.4
Expenses, including taxation	(2,737.1)	(2,279.3)
Profit after taxation	1,997.8	2,733.1
Other comprehensive loss	(51.3)	(22.0)
Total comprehensive income	1,946.5	2,711.1
Share of total comprehensive income (15.79%)	307.4	428.1
Dividend received from the associate	380.5	382.1

The information above reflects the amounts presented in the financial statements of the associate adjusted for differences in accounting policies between the Group and the associate.

Reconciliation of the summarised financial information presented to the carrying amount of its interest in the associate:

	CWPI	
	2022 HK\$'M	2021 HK\$'M
<b>Net assets</b>		
At 1st January	94,006.1	93,715.0
Profit for the year	1,997.8	2,733.1
Other comprehensive loss	(51.3)	(22.0)
Dividend paid	(2,410.0)	(2,420.0)
At 31st December	93,542.6	94,006.1
	2022 HK\$'M	2021 HK\$'M
<b>Carrying value</b>		
Interest in an associate (15.79%)	14,770.4	14,843.6

## 22 Joint ventures

	2022 HK\$'M	2021 HK\$'M
Investments in joint ventures, including goodwill	11,163.0	12,575.2
Loan and other receivables from joint ventures – current	612.8	535.9
Loan from a joint venture – non-current	(113.1)	–
Loan and other payables to joint ventures – current	(263.4)	(189.5)

As at 31st December 2022, the Group's investments in joint ventures, including goodwill in relation to the Chinese mainland's gas, water and related business, New Energy and Property segments amounted to HK\$11,148.5 million, HK\$10.8 million and HK\$3.7 million respectively (2021: HK\$12,561.7 million, HK\$10.2 million and HK\$3.3 million respectively).

Loan and other receivables from joint ventures are analysed below:

- (i) Loans to joint ventures in the Chinese mainland of HK\$14.6 million (2021: HK\$208.5 million) with effective interest rates of 4.35 per cent per annum (2021: 4.35 per cent per annum) are unsecured and fully repayable in 2023 (2021: 2022).
- (ii) Loans to joint ventures in Hong Kong of HK\$93.2 million (2021: HK\$84.9 million) are unsecured, interest free and have no fixed terms of repayment.
- (iii) The remaining balances are unsecured, interest free and have no fixed terms of repayment.
- (iv) Loan and other receivables from joint ventures are considered to have low credit risk and the loss allowance recognised during the year was therefore limited to 12-month expected credit loss.
- (v) Loans and other receivables are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
RMB	519.6	451.0
HKD	93.2	84.9
	612.8	535.9

Loan and other payables to joint ventures are analysed below:

- (i) As at 31st December 2022, loan from a joint venture of HK\$113.1 million with effective interest rate of 3.25 per cent per annum is unsecured and fully repayable in 2025 (2021: Nil).
- (ii) Loans from joint ventures of HK\$263.4 million (2021: HK\$189.5 million) with effective interest rate of 2.15 per cent per annum (2021: 2.15 per cent per annum) are unsecured and have no fixed terms of repayment.
- (iii) Loan and other payables to joint ventures are denominated in RMB (2021: denominated in RMB).

## 22 Joint ventures (Continued)

Particulars of the principal joint ventures as at 31st December 2022 are listed below:

Name	Note	Issued share capital/ Registered capital	Percentage of the Group's equity interest	Place of incorporation/ operation	Principal activity
Hua Yan Environmental Industry Development (Suzhou) Co., Ltd.	(i)	RMB75.0 million	55	PRC	Food and green waste treatment project
# Beijing Beiran & HKCG Gas Company Limited		RMB44.4 million	49	PRC	Gas sales and related businesses
Changzhou Hong Kong and China Gas Company Limited		RMB300.0 million	50	PRC	Gas sales and related businesses
Jinan Hong Kong and China Gas Company Limited		RMB700.0 million	49	PRC	Gas sales and related businesses
Nanjing Hong Kong and China Gas Company Limited		RMB700.0 million	49	PRC	Gas sales and related businesses
Suzhou Hong Kong and China Gas Co., Ltd.	(i)	RMB200.0 million	55	PRC	Gas sales and related businesses
# Tongling Hong Kong and China Gas Company Limited	(i)	RMB100.0 million	70	PRC	Gas sales and related businesses
Wuhan Natural Gas Company Limited		RMB420.0 million	49	PRC	Gas sales and related businesses
# Xian Qinhuo Gas Group Company Limited		RMB1,000.0 million	49	PRC	Gas sales and related businesses
Zhangjiagang Hong Kong and China Gas Company Limited		RMB100.0 million	50	PRC	Gas sales and related businesses
Jilin Province Natural Gas Limited Company		RMB220.0 million	49	PRC	Mid-stream natural gas project
江蘇港華交通科技有限公司		RMB50.0 million	50	PRC	New energy vehicle charging service
Yieldway International Limited		HK\$2	50	Hong Kong	Property development
Ying Tong TGT Network Services (Shenzhen) Co. Ltd.		RMB100.0 million	49	PRC	Telecommunications business
Suzhou Industrial Park Qingyuan Hong Kong & China Water Co., Ltd.		RMB1,200.0 million	50	PRC	Water supply and sewage treatment

# Direct joint ventures of the Company

### Note

(i) The Group can only exercise joint control over the board of directors in the joint ventures.

**22 Joint ventures** (Continued)

Particulars of the principal joint ventures as at 31st December 2022 are listed below: (Continued)

Name	Issued share capital/ Registered capital	Percentage of the Group's equity interest	Place of incorporation/ operation	Principal activity
<b>Held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly.</b>				
Anhui Towngas Keda Power Sales Co., Ltd.	RMB200.0 million	50	PRC	Distributed energy systems businesses
Tongling Towngas China Energy Co., Ltd.	RMB24.5 million	40	PRC	Distributed energy systems businesses
Anqing Hong Kong and China Gas Company Limited	RMB73.0 million	50	PRC	Gas sales and related businesses
Hangzhou Hong Kong and China Gas Company Limited	US\$20.0 million	50	PRC	Gas sales and related businesses
Maanshan Hong Kong and China Gas Company Limited	US\$13.0 million	50	PRC	Gas sales and related businesses
Taian Taishan Hong Kong and China Gas Company Limited	RMB150.0 million	49	PRC	Gas sales and related businesses
Weifang Hong Kong and China Gas Company Limited	RMB400.0 million	50	PRC	Gas sales and related businesses
Weihai Hong Kong and China Gas Company Limited	RMB99.2 million	50	PRC	Gas sales and related businesses
Wuhu Hong Kong & China Gas Company Limited	RMB52.8 million	50	PRC	Gas sales and related businesses
Zibo Hong Kong and China Gas Company Limited	RMB100.0 million	50	PRC	Gas sales and related businesses
重慶港華燃氣有限公司	RMB20.0 million	50	PRC	Gas sales and related businesses
泰安市泰港燃氣有限公司	RMB139.2 million	49	PRC	Mid-stream natural gas project

The following amounts represent the Group's share of income and results of the joint ventures and are included in the consolidated income statement and statement of comprehensive income:

	2022 HK\$'M	2021 HK\$'M
Income	20,431.7	18,603.0
Expenses, including taxation	(20,230.2)	(17,956.1)
Profit after taxation and total comprehensive income	201.5	646.9

No individual joint ventures are considered to be material to the Group.

## 23 Financial assets at fair value through other comprehensive income

	2022 HK\$'M	2021 HK\$'M
Debt securities (note (a))	87.1	139.2
Equity securities (note (b))	1,676.2	2,031.3
	<b>1,763.3</b>	<b>2,170.5</b>

### Notes

	2022 HK\$'M	2021 HK\$'M
(a) Debt securities		
Listed – Hong Kong	13.8	15.7
Listed – outside Hong Kong	73.3	123.5
	<b>87.1</b>	<b>139.2</b>

	2022 HK\$'M	2021 HK\$'M
(b) Equity securities		
Listed – Hong Kong	85.7	163.7
Listed – outside Hong Kong	1,171.7	1,435.3
Unlisted	418.8	432.3
	<b>1,676.2</b>	<b>2,031.3</b>

Included in the equity securities, it comprises HK\$72.0 million (2021: HK\$128.5 million) of perpetual bonds and HK\$1,604.2 million (2021: HK\$1,902.8 million) of investments that are mainly engaged in the provision of natural gas and related services and gas pipeline construction services. These are strategic investments and the Group considers the classification of FVOCI to be more relevant.

Financial assets at FVOCI are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
RMB	1,541.6	1,810.7
HKD	62.5	92.0
USD	159.2	267.8
	<b>1,763.3</b>	<b>2,170.5</b>

## 24 Financial assets at fair value through profit or loss

	2022 HK\$'M	2021 HK\$'M
Debt securities – non-current (note (a))	248.4	284.2
Equity securities (note (b))		
– Current	70.1	–
– Non-current	4,466.9	4,763.4
	<b>4,785.4</b>	<b>5,047.6</b>

### Notes

	2022 HK\$'M	2021 HK\$'M
(a) Debt securities		
Listed – outside Hong Kong	248.4	284.2

	2022 HK\$'M	2021 HK\$'M
(b) Equity securities		
Listed – Hong Kong	0.3	–
Listed – outside Hong Kong	1,218.0	1,498.0
Unlisted	3,318.7	3,265.4
	<b>4,537.0</b>	<b>4,763.4</b>

Included in the unlisted equity securities, it comprises HK\$2,942.9 million (2021: HK\$3,195.3 million) of investment in certain equity interests of an unlisted company which owned a coking coal mine and related coke production and coke-gas conversion facility in the Chinese mainland.

Financial assets at FVPL are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
HKD	12.0	–
USD	11.4	70.1
RMB	4,762.0	4,977.5
	<b>4,785.4</b>	<b>5,047.6</b>

## 25 Derivative financial instruments

	2022		2021	
	Assets HK\$'M	Liabilities HK\$'M	Assets HK\$'M	Liabilities HK\$'M
<b>Non-current</b>				
Cross currency swap and interest rate swap contracts – cash flow hedges	34.4	(26.0)	55.9	(80.3)
Foreign currency forward contracts – held-for-trading	–	(6.1)	5.2	–
Cross currency swap contracts – held-for-trading	18.8	–	7.9	–
Interest rate swap contracts – held-for-trading	3.4	(61.5)	–	–
Put option – held-for-trading (note 3)	241.8	–	262.8	–
Convertible bonds – embedded derivative component (note 32(b))	–	(200.7)	–	(776.6)
	<b>298.4</b>	<b>(294.3)</b>	<b>331.8</b>	<b>(856.9)</b>
<b>Current</b>				
Cross currency swap and interest rate swap contracts – cash flow hedges	5.1	–	–	(511.0)
Foreign currency forward contracts – held-for-trading	0.8	–	2.1	–
	<b>5.9</b>	<b>–</b>	<b>2.1</b>	<b>(511.0)</b>

The fair value of hedging derivatives is classified as current assets or liabilities when the remaining maturity of the hedged item is less than 12 months.

The full fair values of hedging derivatives are classified as non-current assets or liabilities when the remaining maturity of the hedged items is more than 12 months.

### *Hedge ineffectiveness*

Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments to ensure that an economic relationship exists between the hedged item and hedging instrument.

The ineffective portion recognised in the profit or loss that arises from cash flow hedges amounts to a loss of HK\$3.6 million (2021: a gain of HK\$4.9 million) (note 7).

The major terms of the outstanding derivative contracts held for hedging as at 31st December 2022 are as follows:

Notional amount	Maturity	Forward contract rate
<b>Cross currency swap and interest rate swap contracts – cash flow hedges</b>		
RMB1,585 million	2023-2025	HKD1 to RMB0.8144 – RMB0.9060
USD250 million	2024-2027	USD1 to RMB6.3760 – RMB6.9270
AUD25 million	2025	AUD1 to HKD5.4200
JPY2 billion	2027	JPY100 to HKD6.8770

Gains and losses recognised in the hedging reserve in equity (note 36) on the swaps as of 31st December 2022 will be continuously released to the profit or loss until the repayment of relevant borrowings.

## 26 Retirement benefit assets

	2022 HK\$'M	2021 HK\$'M
At 31st December	134.7	184.0

The Group operates a defined benefit retirement scheme in Hong Kong, namely the Workmen Retirement Scheme which is a final salary defined benefit scheme.

The amounts recognised in the consolidated statement of financial position are shown as follows:

	2022 HK\$'M	2021 HK\$'M
Fair value of plan assets	577.4	744.9
Present value of funded obligations	(442.7)	(560.9)
Net assets in the consolidated statement of financial position	134.7	184.0

The plan assets did not include any shares of the Company as at 31st December 2022 (2021: Nil).

The cost of the defined benefit retirement scheme recognised in the consolidated income statement is as follows:

	2022 HK\$'M	2021 HK\$'M
Current service cost	13.4	15.8
Net interest income	(2.8)	(1.1)
Total (note 11)	10.6	14.7

The amounts recognised in the other comprehensive income are as follows:

	2022 HK\$'M	2021 HK\$'M
Actuarial loss/(gain) due to liability experience	3.7	(22.7)
Actuarial gain due to financial assumption changes	(108.9)	(31.2)
Actuarial loss/(gain) due to demographic assumption changes	0.1	(0.1)
Actuarial gains	(105.1)	(54.0)
Return on plan assets, excluding amounts included in interest income	147.6	(28.8)
Total	42.5	(82.8)

## 26 Retirement benefit assets (Continued)

The movements in the defined benefit obligations are as follows:

	2022 HK\$'M	2021 HK\$'M
At 1st January	560.9	618.2
Current service cost	13.4	15.8
Interest cost	8.1	5.5
Benefits paid	(34.6)	(24.6)
Actuarial gains	(105.1)	(54.0)
At 31st December	442.7	560.9

The movements in the fair value of plan assets are as follows:

	2022 HK\$'M	2021 HK\$'M
At 1st January	744.9	730.1
Return on plan assets, excluding amounts included in interest income	(147.6)	28.8
Interest income recognised in consolidated income statement	10.9	6.6
Contribution paid by employer	3.8	4.0
Benefits paid	(34.6)	(24.6)
At 31st December	577.4	744.9

The movements in the assets recognised in the consolidated statement of financial position are as follows:

	2022 HK\$'M	2021 HK\$'M
At 1st January	184.0	111.9
Remeasurement effects recognised in other comprehensive income	(42.5)	82.8
Total cost of defined benefit retirement scheme (note 11)	(10.6)	(14.7)
Contribution paid by employer	3.8	4.0
At 31st December	134.7	184.0

The major categories of plan assets as a percentage of total plan assets are as follows:

	2022 %	2021 %
Equity securities	67.3	85.3
Debt securities	26.2	12.1
Cash	6.5	2.6

## 26 Retirement benefit assets (Continued)

The principal actuarial assumptions used are as follows:

	2022 %	2021 %
Discount rate	3.7	1.5
Expected rate of future salary increases	3.5	4.0

The sensitivity of the defined benefit obligation to changes in the weighted principal assumptions is:

	Impact on defined benefit obligations		
	Change in assumption	Increase in assumption	Decrease in assumption
Discount rate	0.25%	Decrease by 1.9%	Increase by 2.0%
Salary increase rate	0.25%	Increase by 1.9%	Decrease by 1.9%
Maximum salary scale increase rate	0.25%	Increase by 0.0%	Decrease by 0.1%

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligations to significant actuarial assumptions, the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the pension liability recognised within the consolidated statement of financial position.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the previous year.

Expected contributions to the scheme for the year ending 31st December 2023 are HK\$3.5 million.

Through its defined benefit pension plans, the Group is exposed to a number of risks, the most significant of which are detailed below:

Investment risk	Strong investment returns tend to increase the fair value of scheme assets and therefore improve the scheme's financial position as measured by the net defined benefit asset/liability, whilst poor or negative investment returns tend to weaken the position. The scheme assets are invested in a diversified portfolio of equities, bonds and cash, covering major geographical locations around the world. The diversification of asset classes and geographical locations helps to reduce the concentration of risk associated with the scheme investments.
Interest rate risk	The defined benefit obligation is calculated using a discount rate based on market bond yields. A decrease in the bond yields will increase the defined benefit obligation.
Salary risk	The defined benefit obligation is calculated with reference to the future salaries of members because the scheme's benefits are salary-related. Salary increases that are higher than expected will increase the defined benefit obligation.

## 26 Retirement benefit assets (Continued)

The weighted average duration of the benefit obligation is 8.1 years. Expected maturity analysis of benefit undiscounted payments:

	Within 5 years HK\$'M	Beyond 5 years but within 10 years HK\$'M	Beyond 10 years HK\$'M
At 31st December 2022			
Expected benefit payments	156.0	193.0	378.2

## 27 Other non-current assets

	2022 HK\$'M	2021 HK\$'M
Aviation fuel facility construction receivable (note (a))	3,848.2	3,583.7
Other receivables and prepayments (note (b))	2,509.8	2,220.4
Deposit paid for acquisition of subsidiaries	178.7	–
	6,536.7	5,804.1

### Notes

- (a) Aviation fuel facility construction receivable is denominated in HKD, unsecured and will be recovered by monthly instalments up to 2047.
- (b) The balance includes prepayments of HK\$1,847.7 million (2021: HK\$1,474.0 million) for the right to use two storage tanks at the liquefied natural gas receiving terminal in Tangshan city for a contract term of 50 years, and the remaining balance mainly represents prepayments for inventory and capital expenditures to suppliers.

## 28 Inventories

	2022 HK\$'M	2021 HK\$'M
Stores and materials	2,690.3	2,425.9
Work in progress	736.0	714.8
	3,426.3	3,140.7

The Group wrote down the carrying value of inventories by HK\$10.6 million (2021: HK\$43.6 million) to its net realisable value during the year ended 31st December 2022.

## 29 Trade and other receivables

	2022 HK\$'M	2021 HK\$'M
Trade receivables (note (a))	4,435.6	4,211.8
Payments in advance (note (b))	2,173.6	1,783.4
Other receivables	4,053.6	3,153.7
	<b>10,662.8</b>	<b>9,148.9</b>

Trade and other receivables are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
RMB	7,430.4	6,299.1
HKD	2,898.9	2,734.3
USD	326.2	94.0
Others	7.3	21.5
	<b>10,662.8</b>	<b>9,148.9</b>

### Notes

- (a) The Group has established credit policies for different types of customers. The credit periods offered for trade receivables, which are subject to periodic review by management, range from 30 to 60 days except for gas receivables of the Company which are due by 8 working days after billing date. The aging analysis of the trade receivables, net of impairment provision, is as follows:

	2022 HK\$'M	2021 HK\$'M
0-30 days	3,924.7	3,726.0
31-60 days	132.2	101.5
61-90 days	95.1	101.2
Over 90 days	283.6	283.1
	<b>4,435.6</b>	<b>4,211.8</b>

The Group applies the HKFRS 9 simplified approach to measure expected credit losses which uses a lifetime expected credit loss allowance for trade receivables. Note 3(b) provides for details about the calculation of the allowance.

The loss allowance further increased from HK\$246.2 million to HK\$286.4 million during the year.

- (b) Balance mainly represents prepayment for purchase of materials and services in relation to the Group's gas, water and New Energy businesses in Hong Kong and the Chinese mainland. As at 31st December 2022, the directors of the Company reviewed the composition of the balance and considered the amount is recoverable.

### 30 Time deposits, cash and bank balances

	2022 HK\$'M	2021 HK\$'M
Time deposits over three months	52.3	77.9
Time deposits up to three months	5,332.7	1,181.6
Cash and bank balances	7,908.5	9,375.4
	<b>13,241.2</b>	<b>10,557.0</b>

The average effective interest rates on time deposits in Hong Kong and the Chinese mainland are 3.15 per cent and 1.64 per cent per annum respectively (2021: 0.73 per cent and 2.08 per cent per annum respectively). These deposits have average maturity dates within 59 days (2021: 72 days).

Time deposits, cash and bank balances are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
RMB	7,815.8	8,464.2
USD	4,158.6	1,076.0
HKD	810.2	1,064.2
THB	497.3	19.6
Others	11.6	10.9
	<b>13,293.5</b>	<b>10,634.9</b>

The conversion of Renminbi denominated balances into foreign currencies and the remittance of foreign currencies denominated bank balances and cash out of the Chinese mainland are subject to relevant rules and regulations of foreign exchange control promulgated by the PRC government.

### 31 Trade payables and other liabilities

	2022 HK\$'M	2021 HK\$'M
Trade payables (note (a))	4,272.7	4,120.9
Other payables and accruals (note (b))	5,600.4	5,368.9
Contract liabilities (note (c))	8,583.1	8,894.8
Lease liabilities (note (d))	154.2	103.0
Preferred shares (note (e))	3,393.9	–
	<b>22,004.3</b>	<b>18,487.6</b>

**31 Trade payables and other liabilities** (Continued)

## Notes

(a) The aging analysis of the trade payables is as follows:

	2022 HK\$'M	2021 HK\$'M
0-30 days	1,773.6	1,790.5
31-60 days	552.1	583.2
61-90 days	572.0	617.6
Over 90 days	1,375.0	1,129.6
	<b>4,272.7</b>	<b>4,120.9</b>

(b) The balances mainly represent accrual for services or goods received from suppliers.

(c) The balances mainly represent non-refundable advance received from customers for utility connection services, provision of gas and provision of maintenance services.

The following table shows the amount of the revenue recognised in the current reporting period relates to contract liabilities balance at the beginning of the year:

	2022 HK\$'M	2021 HK\$'M
Revenue recognised that was included in the contract liabilities balance at the beginning of the year	4,568.2	4,075.4

(d) As at 31st December 2022, the weighted average incremental borrowing rate applied to the lease liabilities were 3.0 per cent (2021: 3.0 per cent) for leases in Hong Kong and 5.0 per cent (2021: 5.0 per cent) for leases in the Chinese mainland.

(e) As at 31st December 2022, balance represents the carrying value of preferred shares issued by EcoCeres, Inc., a non-wholly owned subsidiary of the Group, during the current year. The preferred shares are financial liabilities which are measured at fair value through profit or loss.

(f) As at 31st December 2022, the amount of unsatisfied performance obligations expected to be recognised within one year and after one year are HK\$4,054.3 million (2021: HK\$3,462.8 million) and HK\$4,898.2 million (2021: HK\$5,740.6 million) respectively.

Trade payables and other liabilities are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
RMB	15,823.0	15,686.1
HKD	2,434.7	2,535.2
USD	3,730.8	251.9
Others	15.8	14.4
	<b>22,004.3</b>	<b>18,487.6</b>

## 32 Borrowings

	2022 HK\$'M	2021 HK\$'M
<b>Non-current</b>		
Bank and other loans	15,631.6	16,232.8
Guaranteed notes (note (a))	22,136.6	18,666.5
Convertible bonds (note (b))	1,854.9	1,956.6
	<b>39,623.1</b>	<b>36,855.9</b>
<b>Current</b>		
Bank and other loans	17,967.3	15,623.0
Guaranteed notes (note (a))	1,713.6	2,632.2
	<b>19,680.9</b>	<b>18,255.2</b>
<b>Total borrowings</b>	<b>59,304.0</b>	<b>55,111.1</b>

### Notes

#### (a) Guaranteed notes

Guarantee notes comprise the principal amounts of HK\$19,520.5 million, USD200.0 million, RMB2,335.0 million, AUD25.0 million and JPY2,000.0 million (2021: HK\$17,980.5 million, RMB1,635.0 million, AUD111.0 million and JPY12,000.0 million) which in aggregate is equivalent to HK\$23,971.4 million (2021: HK\$21,428.6 million). They were issued by HKCG (Finance) Limited or TCCL (Finance) Limited, subsidiaries of the Group. The notes are unsecured and guaranteed by the Company or Towngas Smart Energy as to repayment, mainly carry fixed coupon rates ranging from 0.35 per cent to 5.85 per cent per annum (2021: 0.35 per cent to 5.85 per cent per annum) payable quarterly, half-yearly or annually in arrear and have maturity terms between 2 to 40 years (2021: 3 to 40 years).

#### (b) Convertible bonds

In November 2021, Towngas Smart Energy, a listed subsidiary of the Company, issued and allotted new shares and convertible bonds due 2026 of principal amount of RMB1,835.6 million (equivalent to HK\$2,217.7 million at an agreed exchange rate) to an investor. Details of the transactions were disclosed in Towngas Smart Energy's announcements dated 25th October 2021 and 18th November 2021.

Total gross proceeds received by Towngas Smart Energy amounted to HK\$2,801.6 million. The subscription of shares and issue of convertible bonds are considered to be a single transaction. On initial recognition, the convertible bonds are measured at fair value at HK\$2,349.7 million and the remaining balance of HK\$451.9 million is recorded as share capital and share premium of Towngas Smart Energy.

There was no movement in the number of the convertible bonds during the year ended 31st December 2022 and 2021 (since date of issuance).

**32 Borrowings** (Continued)

Notes (Continued)

## (b) Convertible bonds (Continued)

The convertible bonds entitle the investor to convert them into ordinary shares of Towngas Smart Energy in whole or in part at any time during the conversion period at a conversion price of HK\$6.33 per convertible bond, subject to adjustments. Effective from 12th July 2022, the conversion price of the convertible bonds has been adjusted from HK\$6.33 per share to HK\$6.26 per share as a result of aggregated distributions of HK\$4.028 per share made by Towngas Smart Energy to the shareholders for the year ended 31st December 2021. Details of the adjustment to conversion price of the convertible bonds were set out in the Towngas Smart Energy's announcement dated 12th July 2022. The conversion period commences from the date of issue and will expire on the close of business on the earlier of (i) the date which is 5 business days prior to the maturity date, i.e. 18th November 2026, and (ii) if the convertible bonds shall have been called for redemption prior to the maturity date, the date which is 5 business days prior to the date fixed for redemption. The convertible bonds carry interest at a rate of 1% per annum, which is payable annually in arrears.

The convertible bonds comprise two components:

- (i) The debt component was initially measured at fair value amounting to RMB1,590.5 million (equivalent to HK\$1,940.3 million). It is subsequently measured at amortised cost using the effective interest method after considering the effect of the transaction costs. The effective interest rate of the debt component is 4% (2021: 4%) per annum.
- (ii) The embedded derivative component comprises conversion options, which were initially measured at fair value with an amount of RMB335.6 million (equivalent to HK\$409.4 million).

	Debt component HK\$'M	Embedded derivative component (note 25) HK\$'M	Total HK\$'M
Fair value of convertible bonds at issuance	1,940.3	409.4	2,349.7
Exchange differences	11.1	8.6	19.7
Direct transaction costs attributable to debt component	(1.5)	–	(1.5)
Interest expense (note 9)	9.3	–	9.3
Interest paid	(2.6)	–	(2.6)
Change in fair value (note 7)	–	358.6	358.6
As at 31st December 2021	1,956.6	776.6	2,733.2
Exchange differences	(156.6)	(44.4)	(201.0)
Interest expense (note 9)	77.1	–	77.1
Interest paid	(22.2)	–	(22.2)
Change in fair value (note 7)	–	(531.5)	(531.5)
As at 31st December 2022	1,854.9	200.7	2,055.6

## 32 Borrowings (Continued)

Notes (Continued)

(c) The maturity of borrowings is as follows:

	Bank and other loans		Guaranteed notes and convertible bonds	
	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M
Within 1 year	17,967.3	15,623.0	1,713.6	2,632.2
Between 1 and 2 years	3,579.9	5,209.7	4,257.9	1,757.6
Between 2 and 5 years	11,254.1	10,540.8	10,232.8	7,666.1
Wholly repayable within 5 years	32,801.3	31,373.5	16,204.3	12,055.9
Wholly repayable over 5 years	797.6	482.3	9,500.8	11,199.4

As at 31st December 2022, the Group's borrowings amounted to HK\$59,304.0 million (2021: HK\$55,111.1 million). While the guaranteed notes, convertible bonds together with the bank and other loans of HK\$11,859.8 million (2021: HK\$9,522.1 million) mainly had fixed interest rate and were unsecured, the remaining bank and other loans were unsecured and had a floating interest rate, of which HK\$8,295.5 million (2021: HK\$10,221.4 million) were long-term bank loans and HK\$13,443.5 million (2021: HK\$12,112.3 million) had maturities within one year on revolving credit or term loan facilities. Guaranteed notes of HK\$3,603.4 million (2021: HK\$2,527.8 million) were hedged.

The exposure of the Group's borrowings to interest rate changes and the contractual repricing dates are mainly within 6 months from the date of statement of financial position, except for guaranteed notes, convertible bonds and some bank loans as they are subjected to fixed interest rate and with maturity term ranged from 1 to 40 years. The effective interest rates of the Group's borrowings at the date of statement of financial position are as follows:

	2022					2021				
	HKD	USD	RMB	AUD	JPY	HKD	USD	RMB	AUD	JPY
Bank and other loans	5.2%	4.0%	3.7%	N/A	1.2%	1.0%	4.0%	4.0%	N/A	1.2%
Guaranteed notes	3.3%	4.6%	3.0%	3.0%	2.9%	2.9%	N/A	2.1%	3.0%	3.3%
Convertible bonds	N/A	N/A	4.0%	N/A	N/A	N/A	N/A	4.0%	N/A	N/A

(d) The carrying values of borrowings approximate their fair values as the balances impact of discounting is not significant.

(e) The carrying amounts of the borrowings are denominated in the following currencies:

	2022 HK\$'M	2021 HK\$'M
HKD	31,872.8	28,300.0
RMB	25,221.1	24,957.2
USD	1,951.5	401.2
AUD	132.8	628.3
JPY	125.8	824.4
	59,304.0	55,111.1

### 33 Deferred taxation

The movements in the deferred taxation are as follows:

	2022 HK\$'M	2021 HK\$'M
At 1st January	7,225.4	7,059.1
Charged to the profit or loss	214.4	336.4
Credited to other comprehensive income	(33.0)	(72.1)
Withholding tax	(93.4)	(84.8)
Exchange differences	(386.7)	(13.2)
At 31st December	6,926.7	7,225.4

Prior to offsetting of balances within the same taxation jurisdiction, the movements in deferred tax liabilities and assets during the year are as follows:

	Accelerated tax depreciation		Mining and oil properties		Financial instruments		Others		Total	
	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M
Deferred tax liabilities										
At 1st January	4,243.6	3,924.6	1,344.6	1,490.7	616.8	713.2	1,039.5	949.7	7,244.5	7,078.2
Charged/(credited) to the profit or loss	195.5	256.7	5.1	(6.1)	(43.1)	(38.1)	56.9	123.9	214.4	336.4
Credited to other comprehensive income	–	–	–	–	(33.0)	(72.1)	–	–	(33.0)	(72.1)
Withholding tax	–	–	–	–	–	–	(93.4)	(84.8)	(93.4)	(84.8)
Exchange differences	(203.4)	62.3	(61.3)	(140.0)	(42.7)	13.8	(79.3)	50.7	(386.7)	(13.2)
At 31st December	4,235.7	4,243.6	1,288.4	1,344.6	498.0	616.8	923.7	1,039.5	6,945.8	7,244.5

	Provisions		Tax losses		Total	
	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M	2022 HK\$'M	2021 HK\$'M
Deferred tax assets						
At 1st January and 31st December	(8.3)	(8.3)	(10.8)	(10.8)	(19.1)	(19.1)
Net deferred tax liabilities at 31st December					6,926.7	7,225.4

Deferred tax assets are recognised for tax loss carry-forwards to the extent that the realisation of the related tax benefit through future taxable profits is probable. The Group did not recognise deferred tax assets of HK\$1,054.0 million (2021: HK\$927.7 million) in respect of losses amounting to HK\$4,489.6 million (2021: HK\$3,956.9 million) that can be carried forward and set off against future taxable income. These tax losses have no expiry dates except for the tax losses of HK\$3,575.4 million (2021: HK\$3,232.7 million) which will expire at various dates up to and including 2027 (2021: 2026).

### 34 Other non-current liabilities

	2022 HK\$'M	2021 HK\$'M
Customers' deposits (note (a))	1,453.7	1,434.0
Contract liabilities (note (b))	867.6	889.9
Loan and other payables to non-controlling shareholders	169.4	136.0
Lease liabilities (note (c))	274.0	223.3
Asset retirement obligations	85.9	73.5
	<b>2,850.6</b>	<b>2,756.7</b>

#### Notes

- (a) Customers' deposits mainly represent deposits received from customers pursuant to gas supply contracts agreed with customers and are repayable upon termination of gas supply contracts subject to the customers' fulfilment of certain conditions.
- (b) Contract liabilities include only the non-current portion. The current portion is disclosed in note 31.
- (c) Lease liabilities include only lease with contractual maturities over 1 year, the current portion is disclosed in note 31.

### 35 Share capital

	Number of shares		Share capital	
	2022	2021	2022 HK\$'M	2021 HK\$'M
Issued and fully paid:				
At beginning of year	18,659,870,098	17,771,304,856	5,474.7	5,474.7
Bonus shares	–	888,565,242	–	–
At end of year	<b>18,659,870,098</b>	<b>18,659,870,098</b>	<b>5,474.7</b>	<b>5,474.7</b>

## 36 Reserves

	Investment revaluation reserve HK\$'M	Hedging reserve HK\$'M	Exchange reserve HK\$'M	Other reserves (note) HK\$'M	Retained profits HK\$'M	Total HK\$'M
As at 1st January 2022	551.3	(18.8)	3,484.8	40.8	57,893.6	61,951.7
Profit attributable to shareholders	–	–	–	–	5,247.9	5,247.9
Other comprehensive income:						
Movement in reserve of financial assets at FVOCI	(129.0)	–	–	–	–	(129.0)
Remeasurements of retirement benefit	–	–	–	–	(42.5)	(42.5)
Change in fair value of cash flow hedges	–	21.1	–	–	–	21.1
Share of other comprehensive loss of associates	(3.4)	(8.1)	–	–	–	(11.5)
Exchange differences	–	–	(4,757.4)	–	–	(4,757.4)
Total comprehensive income for the year	(132.4)	13.0	(4,757.4)	–	5,205.4	328.6
Capital injections in subsidiaries	–	–	–	–	55.4	55.4
Further acquisition of subsidiaries (note 42(b))	–	–	–	–	(37.7)	(37.7)
Share-based payments of subsidiaries	–	–	–	(32.6)	17.1	(15.5)
Deemed partial disposal of subsidiaries (note 41(d))	–	–	–	(3.3)	(30.8)	(34.1)
2021 final dividend paid	–	–	–	–	(4,291.8)	(4,291.8)
2022 interim dividend paid	–	–	–	–	(2,239.2)	(2,239.2)
Share award scheme of a subsidiary	–	–	–	35.4	–	35.4
At 31st December 2022	418.9	(5.8)	(1,272.6)	40.3	56,572.0	55,752.8
Balance after 2022 final dividend proposed	418.9	(5.8)	(1,272.6)	40.3	52,280.2	51,461.0
2022 final dividend proposed	–	–	–	–	4,291.8	4,291.8
	418.9	(5.8)	(1,272.6)	40.3	56,572.0	55,752.8

### 36 Reserves (Continued)

	Investment revaluation reserve HK\$'M	Hedging reserve HK\$'M	Exchange reserve HK\$'M	Other reserves (note) HK\$'M	Retained profits HK\$'M	Total HK\$'M
As at 1st January 2021	770.0	(30.1)	1,547.6	–	58,996.3	61,283.8
Profit attributable to shareholders	–	–	–	–	5,017.0	5,017.0
Other comprehensive income:						
Movement in reserve of financial assets at FVOCI	(218.7)	–	–	–	–	(218.7)
Remeasurements of retirement benefit	–	–	–	–	82.8	82.8
Change in fair value of cash flow hedges	–	14.8	–	–	–	14.8
Share of other comprehensive loss of an associate	–	(3.5)	–	–	–	(3.5)
Exchange differences	–	–	1,937.2	–	–	1,937.2
Total comprehensive income for the year	(218.7)	11.3	1,937.2	–	5,099.8	6,829.6
Capital injections in subsidiaries	–	–	–	–	17.6	17.6
Further acquisition of subsidiaries (note 42(b))	–	–	–	–	(29.6)	(29.6)
Share-based payments of a subsidiary	–	–	–	36.5	–	36.5
Deemed partial disposal of subsidiaries (note 41(d))	–	–	–	–	136.1	136.1
2020 final dividend paid	–	–	–	–	(4,087.4)	(4,087.4)
2021 interim dividend paid	–	–	–	–	(2,239.2)	(2,239.2)
Share award scheme of a subsidiary	–	–	–	4.3	–	4.3
At 31st December 2021	551.3	(18.8)	3,484.8	40.8	57,893.6	61,951.7
Balance after 2021 final dividend proposed	551.3	(18.8)	3,484.8	40.8	52,280.2	57,659.9
2021 final dividend proposed	–	–	–	–	4,291.8	4,291.8
	551.3	(18.8)	3,484.8	40.8	57,893.6	61,951.7

#### Note

Other reserves arise from the issue of equity-settled share-based payments to certain employees to allow them to invest in the equity interest in Towngas Smart Energy, invest indirectly in the equity interest in a subsidiary engaging in the New Energy business and the purchase of shares under a share award scheme of Towngas Smart Energy.

On 17th August 2021, Towngas Smart Energy adopted a share award scheme (the “Scheme”) for the purposes of recognising the contributions by certain employees and attracting suitable personnel. The Scheme does not constitute a share option scheme or an arrangement analogous to a share option scheme for the purpose of Chapter 17 of the Listing Rules and accordingly, no shareholders’ approval of Towngas Smart Energy is required to adopt the Scheme. Unless terminated earlier by the board of Towngas Smart Energy pursuant to the Scheme, the Scheme shall be valid and effective for a period of ten years commencing on the adoption date. Subject to the terms and conditions of the Scheme and the fulfilment of all vesting conditions, the award shares held by the trustee of the Scheme on behalf of a selected participant shall vest in such selected participant and the trustee shall transfer the award shares to such selected participant.

At 31st December 2022, there are 10,737,000 shares (2021: 3,772,000 shares) held by the trustee. During the year ended 31st December 2022, an additional 6,965,000 shares (2021: 3,772,000 shares) were purchased by the trustee from the market at an average price of approximately HK\$4.29 per share (2021: HK\$5.28 per share), with an aggregate amount of HK\$29,897,000 (2021: HK\$19,928,000). No shares were granted to eligible employees pursuant to the Scheme during both years.

### 37 Perpetual capital securities

In February 2019, the Group issued the perpetual capital securities, amounting to US\$300 million, through Towngas (Finance) Limited, a wholly-owned subsidiary for cash. The proceeds were mainly used to refinance the 2014 first-issued perpetual capital securities redeemed in January 2019.

The respective perpetual capital securities are guaranteed by the Company, bear distribution at a rate of 4.75 per cent per annum for the first five years and thereafter at a fixed distribution rate. With no fixed maturity and the distribution payment can be deferred at the discretion of the Group, and these perpetual capital securities are redeemable at the Group's option on or after 12th February 2024, they are classified as equity instruments, and recorded in equity in the consolidated statement of financial position.

### 38 Contingent liabilities

The Company and the Group did not have any material contingent liabilities as at 31st December 2022 and 2021.

### 39 Commitments

- (a) Capital expenditures for property, plant and equipment

	2022 HK\$'M	2021 HK\$'M
Contracts had been entered into but not brought into the consolidated financial statements at 31st December	5,491.0	5,868.7

- (b) Share of capital expenditures for property, plant and equipment of joint ventures

	2022 HK\$'M	2021 HK\$'M
Contracts had been entered into but not brought into the consolidated financial statements at 31st December	4,488.4	4,470.0

- (c) The Group has committed to provide sufficient funds in the forms of capital and loan contributions to finance certain new projects under various contracts in the Chinese mainland. The directors of the Company estimate that as at 31st December 2022, the Group's commitments to these projects were approximately HK\$7,543.2 million (2021: HK\$5,142.1 million).

### 39 Commitments (Continued)

(d) Lease commitments

*Lessor*

The Group leases out the building facilities of the commercial complex and car parks of Grand Waterfront (further details of the carrying value of the property are contained in note 17). Except for certain car parks rented out on an hourly or a monthly basis, these leases typically run for a period of 2 to 5 years.

At 31st December 2022 and 2021, future aggregate minimum lease payments receivable under non-cancellable operating leases are as follows:

	2022 HK\$'M	2021 HK\$'M
Not later than 1 year	22.2	21.3
Later than 1 year and not later than 5 years	22.7	17.6
Later than 5 years	0.5	–
	<b>45.4</b>	<b>38.9</b>

### 40 Related party transactions

Henderson Land Development Company Limited (“Henderson”) is a related party of the Group by virtue of its significant interest in and influence over the Group. Other related parties include subsidiaries of Henderson and one bank with a common director with the Company during the year. During the year, the transactions carried out and year end balances with the associates, joint ventures and other related parties are shown as follows:

(a) Interest income and sale of goods and services

	2022 HK\$'M	2021 HK\$'M
Associates		
Sale of goods and services (note (i))	426.6	204.7
Loan interest income (note (ii))	38.0	49.9
Joint ventures		
Sale of goods and services (note (i))	436.9	431.4
Loan interest income (note (ii))	2.1	1.6
Other related parties		
Sale of goods and services (note (i) and (iii))	233.5	112.4

**40 Related party transactions** (Continued)

(b) Interest expense and purchase of goods and services

	2022 HK\$'M	2021 HK\$'M
Associates		
Purchase of goods and services (note (i))	322.8	443.1
Joint ventures		
Purchase of goods and services (note (i))	22.3	33.7
Loan interest expenses (note (ii))	4.3	15.3
Other related parties		
Purchase of goods and services (note (i))	10.1	9.8
Interest expense on bank loans (note (i))	2.2	0.2

Notes

- (i) These related party transactions were conducted at prices and terms as agreed by parties involved.
- (ii) For the terms and year end balances of loans, please refer to notes 21 and 22.
- (iii) This amount includes HK\$135.7 million (2021: HK\$40.8 million) that are also connected transactions under the Listing Rules.

(c) Year end balances arising from interest expense and sale of goods and services to other related parties

	2022 HK\$'M	2021 HK\$'M
Bank loans and interest payables	497.3	40.6
Trade receivables	2.5	3.0

Note

For the terms and year end balances of bank loans and interest payables, and trade receivables, please refer to notes 32 and 29 respectively.

(d) Other related party transactions are also disclosed in note 12.

## 41 Notes to consolidated cash flow statement

(a) Reconciliation of profit before taxation to net cash from operating activities

	2022 HK\$'M	2021 HK\$'M
Profit before taxation	8,183.6	8,380.7
Share of results of associates	(865.2)	(1,885.6)
Share of results of joint ventures	(201.5)	(646.9)
Fair value gain on investment property	(145.0)	(22.0)
Impairment loss of trade receivables	73.9	39.7
Provision for assets	240.0	1,531.7
Ineffective portion on cash flow hedges	3.6	(4.9)
Interest income	(204.5)	(171.0)
Interest expense	1,775.8	1,408.2
Dividend income from investments in securities	(167.7)	(153.3)
Depreciation and amortisation	3,525.4	3,288.6
Loss on disposal/write off of property, plant and equipment	210.8	18.4
Loss/(gain) on disposal of right-of-use assets	34.9	(26.0)
Net realised and unrealised gains on financial assets at FVOCI	(0.3)	(1.7)
Net realised and unrealised losses on financial assets at FVPL and derivative financial instruments	183.0	52.7
Change in fair value of embedded derivative component of convertible bonds	(531.5)	358.6
Share-based payments	(13.5)	36.5
Tax paid	(1,260.3)	(2,197.8)
Exchange differences	91.4	(81.7)
Changes in working capital		
Increase in customers' deposits	19.7	92.3
Increase in inventories	(401.3)	(385.9)
Increase in trade and other receivables	(2,153.2)	(161.7)
Increase in trade payables and other liabilities	1,227.4	985.5
Increase in asset retirement obligations	12.4	4.4
Changes in retirement benefit assets	6.8	10.7
Net cash from operating activities	9,644.7	10,469.5

**41 Notes to consolidated cash flow statement** (Continued)

## (b) Reconciliation of liabilities arising from financing activities

	Leases HK\$'M	Borrowings HK\$'M
At 1st January 2021	279.8	42,138.6
Cash flows	(155.1)	12,422.6
Exchange differences	5.8	470.7
Other non-cash movement	195.8	79.2
At 31st December 2021	326.3	55,111.1
Cash flows	(151.4)	5,734.3
Exchange differences	(21.7)	(1,985.1)
Other non-cash movement	275.0	443.7
<b>At 31st December 2022</b>	<b>428.2</b>	<b>59,304.0</b>

(c) During the year ended 31st December 2022, total cash outflow for lease was included in the statement of cash flows in (a) interest paid of HK\$18.9 million (2021: HK\$13.5 million) under “financing activities”, (b) principal elements of lease payments of HK\$132.5 million (2021: HK\$141.6 million) under “financing activities”.

(d) During the year ended 31st December 2022, Towngas Smart Energy issued shares to employees of the Group for a proceed of HK\$42.6 million. EcoCeres, Inc., a subsidiary of the Group also issued shares to investors for a proceed of HK\$98.9 million. The net loss of HK\$34.1 million (note 36) arising from these transactions with non-controlling interests was directly recognised in reserves.

During the year ended 31st December 2021, Towngas Smart Energy issued shares to an investor for a proceed of HK\$451.9 million (note 32(b)). EcoCeres, Inc., a subsidiary of the Group also issued shares to an investor for a proceed of HK\$780.3 million. The net gain of HK\$136.1 million (note 36) arising from these transactions with non-controlling interests was directly recognised in reserves.

**42 Business combinations**

## (a) Business combinations in 2021

For the year ended 31st December 2021, the Group acquired the following businesses:

	Purchase consideration HK\$'M
銅陵市隆中環保有限公司	134.6
Jiangsu Jinzhuo Construction Engineering Co., Ltd	96.5

The inclusion of the acquired businesses did not have a significant impact of the Group's turnover and profit for the year ended 31st December 2021.

## 42 Business combinations (Continued)

### (a) Business combinations in 2021 (Continued)

The details of fair value of net identifiable assets acquired were as follows:

	Acquirees' fair value at acquisition date HK\$'M
Property, plant and equipment (note 16)	73.3
Right-of-use assets (note 18)	6.5
Intangible assets (note 19(b))	103.1
Inventories	35.0
Trade and other receivables	70.0
Cash and bank balances	87.0
Trade payables and other liabilities	(151.5)
Loan and other payables to a non-controlling shareholder	(9.9)
Net assets	213.5
Non-controlling interests	(24.1)
Net identifiable assets acquired	189.4
Goodwill (note 19(a))	41.7
Purchase consideration	231.1

The goodwill was attributable to the future profitability of the acquired businesses and the synergies to arise after the Group's acquisition.

The non-controlling interests were measured on the basis of proportionate share of the fair value of net identifiable assets acquired as of the acquisition date.

#### Net cash flow arising on acquisition:

	HK\$'M
Purchase consideration for acquisition of businesses, settled in cash	215.5
Cash and cash equivalents in businesses acquired	(87.0)
Cash outflow on acquisition of businesses	128.5

As at 31st December 2021, purchase consideration of HK\$15.6 million remained unpaid and included in trade payables and other liabilities.

### (b) Further acquisition of subsidiaries

During the year, the Group has further acquired the interest in several subsidiaries. The total consideration for all further acquisitions is approximately HK\$34.4 million (2021: HK\$50.0 million). The difference between the share of net assets value acquired and total consideration of HK\$37.7 million (2021: HK\$29.6 million) was recognised directly in equity for these transactions with non-controlling interests.

### (c) Apart from the above, there were no other material acquisitions of subsidiaries during the year ended 31st December 2022.

## 43 Statement of financial position of the Company

	2022 HK\$'M	2021 HK\$'M
<b>Assets</b>		
<b>Non-current assets</b>		
Property, plant and equipment	12,994.0	12,895.9
Right-of-use assets	265.0	263.0
Intangible assets	13.4	–
Subsidiaries	26,926.0	24,670.7
Associate	664.7	664.7
Joint ventures	831.7	831.7
Retirement benefit assets	134.7	184.0
	<b>41,829.5</b>	<b>39,510.0</b>
<b>Current assets</b>		
Inventories	1,210.1	1,187.0
Trade and other receivables	2,466.8	2,313.1
Loan and other receivables from associates	22.4	22.4
Other receivables from joint ventures	37.6	27.9
Derivative financial instruments	0.3	1.3
Time deposits up to three months, cash and bank balances	1,274.7	898.5
	<b>5,011.9</b>	<b>4,450.2</b>
<b>Current liabilities</b>		
Trade payables and other liabilities	(1,855.7)	(1,817.4)
Provision for taxation	(670.2)	(162.6)
Borrowings	(2,672.4)	(1,250.0)
	<b>(5,198.3)</b>	<b>(3,230.0)</b>
<b>Total assets less current liabilities</b>	<b>41,643.1</b>	<b>40,730.2</b>
<b>Non-current liabilities</b>		
Loan and other payables to subsidiaries	(22,345.6)	(18,341.7)
Deferred taxation	(1,503.8)	(1,487.9)
Borrowings	–	(1,493.9)
Derivative financial instruments	(1.5)	–
Other non-current liabilities	(1,455.8)	(1,432.9)
	<b>(25,306.7)</b>	<b>(22,756.4)</b>
<b>Net assets</b>	<b>16,336.4</b>	<b>17,973.8</b>

### 43 Statement of financial position of the Company (Continued)

	2022 HK\$'M	2021 HK\$'M
<b>Capital and reserves</b>		
Share capital	5,474.7	5,474.7
Retained profits (note (a))	10,861.7	12,499.1
	<b>16,336.4</b>	<b>17,973.8</b>

Approved by the Board of Directors on 17th March 2023

**Lee Ka-kit**  
*Director*

**David Li Kwok-po**  
*Director*

**43 Statement of financial position of the Company** (Continued)

Note

(a) Retained profits

	HK\$'M
At 1st January 2022	12,499.1
Profit attributable to shareholders	4,936.1
Other comprehensive income:	
Remeasurements of retirement benefit	(42.5)
Total comprehensive income for the year	17,392.7
2021 final dividend paid	(4,291.8)
2022 interim dividend paid	(2,239.2)
At 31st December 2022	10,861.7
Balance after 2022 final dividend proposed	6,569.9
2022 final dividend proposed	4,291.8
	10,861.7
At 1st January 2021	13,772.9
Profit attributable to shareholders	4,970.0
Other comprehensive income:	
Remeasurements of retirement benefit	82.8
Total comprehensive income for the year	5,052.8
2020 final dividend paid	(4,087.4)
2021 interim dividend paid	(2,239.2)
At 31st December 2021	12,499.1
Balance after 2021 final dividend proposed	8,207.3
2021 final dividend proposed	4,291.8
	12,499.1

#### **44 Event after the reporting period**

On 16th March 2023, Towngas Smart Energy entered into a legally binding memorandum of understanding (“MOU”) with Shenergy Group and Shanghai Gas, pursuant to which the parties agreed to the exit of Towngas Smart Energy from its entire investment of 25% equity interest in Shanghai Gas through a reduction of the capital of Shanghai Gas by the amount held by Towngas Smart Energy, the specific arrangements of which are subject to a definitive agreement to be signed between the parties. Shanghai Gas is owned as to 25% by Towngas Smart Energy and 75% by Shenergy Group. Such 25% equity interest (represented by RMB333,333,333 in the registered capital of Shanghai Gas) was acquired by Towngas Smart Energy through a capital contribution of RMB4,700,000,000 to Shanghai Gas completed in July 2021.

The consideration payable to Towngas Smart Energy for the exit is to be agreed between the parties to the MOU (and to be set out in the definitive agreement) based on a valuation of Shanghai Gas as at 28th February 2023 to be conducted by a valuer and subject to the receipt of the required government and regulatory approvals. Pursuant to the MOU, from 1st March 2023, Towngas Smart Energy has ceased to have any rights and responsibilities of a shareholder of Shanghai Gas, unless the exit is not completed for any reason. The parties agreed to submit the application documents in relation to the exit to the relevant authorities before 30th June 2023. If the exit is not completed by 31st December 2023, the MOU will be automatically terminated unless agreed otherwise between the parties.

For details of the exit, please refer to the Company’s joint voluntary announcement dated 16th March 2023.

Apart from the above event, there have been no other material events occurring after the reporting date.

## Notes to the Consolidated Financial Statements

### Subsidiaries

The following is a list of the principal subsidiaries as at 31st December 2022:

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas and related businesses in Hong Kong</b>				
Towngas Enterprise Limited	HK\$2	100	Hong Kong	Café, restaurant and retail sales
Summit Result Developments Limited	HK\$100	100	Hong Kong	Customers centre
Uticom Limited	HK\$100	100	Hong Kong	Development of automatic meter reading system
# Quality Testing Services Limited	HK\$10,000	100	Hong Kong	Laboratory testing
<b>Gas, water and related businesses on the Chinese mainland</b>				
† Hong Kong and China Gas Agricultural Investment (Nanjing) Limited	RMB50.0 million	100	PRC	Agricultural and related businesses
港華紫荊農莊（句容）有限公司	RMB40.0 million	78.3	PRC	Agricultural and related businesses
Jiangsu Jinzhuo Construction Engineering Co., Ltd.	RMB100.0 million	63	PRC	Engineering work services
Chaozhou Hong Kong and China Gas Co., Ltd.	HK\$100.0 million	60	PRC	Gas sales and related businesses
Danyang Hongkong and China Gas Co., Ltd.	RMB60.0 million	80	PRC	Gas sales and related businesses
Fengcheng Hong Kong & China Gas Co. Ltd.	RMB88.0 million	55	PRC	Gas sales and related businesses
Guangzhou Dongyong Hong Kong & China Gas Company Limited	HK\$71.3 million	82.6	PRC	Gas sales and related businesses
Guangzhou Hong Kong and China Gas Company Limited	RMB105.0 million	80	PRC	Gas sales and related businesses
Jiangxi Hong Kong & China Gas Co., Ltd.	RMB25.9 million	56	PRC	Gas sales and related businesses
Jilin Hong Kong and China Gas Company Limited	RMB100.0 million	63	PRC	Gas sales and related businesses
Jingxian Hong Kong and China Gas Company Limited	RMB79.0 million	81	PRC	Gas sales and related businesses
† Peixian Hongkong and China Gas Company Limited	RMB100.0 million	100	PRC	Gas sales and related businesses
† Pingxiang Hong Kong & China Gas Co., Ltd.	RMB104.8 million	100	PRC	Gas sales and related businesses
† Suining Hong Kong and China Gas Co., Ltd.	RMB66.5 million	100	PRC	Gas sales and related businesses
Taizhou Hong Kong and China Gas Company Limited	RMB83.0 million	65	PRC	Gas sales and related businesses
Taizhou Yongan Hong Kong & China Gas Co., Ltd.	US\$10.0 million	93.9	PRC	Gas sales and related businesses
Wujiang Hong Kong and China Gas Company Limited	RMB60.0 million	80	PRC	Gas sales and related businesses

# Direct subsidiaries of the Company

† Wholly foreign-owned enterprises

1 Newly formed during the year

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas, water and related businesses on the Chinese mainland (Continued)</b>				
Xuzhou Hong Kong and China Gas Company Limited	RMB125.0 million	80	PRC	Gas sales and related businesses
Yixing Hong Kong and China Gas Company Limited	RMB172.0 million	80	PRC	Gas sales and related businesses
<sup>†</sup> Zhang Shu Hong Kong & China Gas Co., Ltd.	US\$5.0 million	100	PRC	Gas sales and related businesses
Zhongshan Hong Kong and China Gas Limited	RMB96.0 million	70	PRC	Gas sales and related businesses
常州金壇港華燃氣有限公司	RMB120.0 million	60	PRC	Gas sales and related businesses
<sup>†</sup> 豐縣港華燃氣有限公司	US\$4.5 million	100	PRC	Gas sales and related businesses
饒平港華燃氣有限公司	HK\$126.0 million	60	PRC	Gas sales and related businesses
<sup>†</sup> 新密港華燃氣有限公司	US\$12.5 million	100	PRC	Gas sales and related businesses
<sup>†</sup> 港華儲氣（金壇）有限公司	RMB300.0 million	100	PRC	Gas storage project
<sup>†1</sup> 上海恒素健康管理有限公司	RMB25.0 million	100	PRC	Health management project
<sup>†</sup> C-Tech Investment Company Limited	RMB210.0 million	100	PRC	Investment holding
<sup>†</sup> Hong Kong & China Gas Investment Limited	US\$75.0 million	100	PRC	Investment holding
<sup>†</sup> Hua Yan Environmental Investment (JiangSu) Co., Ltd.	RMB800.0 million	100	PRC	Investment holding
* Towngas Smart Energy Company Limited	3,258,615,526 shares of HK\$0.1 each	66.4	Cayman Islands/ Hong Kong	Investment holding
<sup>†1</sup> 名氣家投資（深圳）有限公司	RMB215.0 million	100	PRC	Investment holding
<sup>†</sup> Towngas Zero Carbon (Tianjin) Investment Partnership (Limited Partner)	RMB251.0 million	100	PRC	Investment platform
<sup>†1</sup> 港華（深圳）能源管理有限公司	RMB1.0 million	100	PRC	Investment platform
丹陽卓惠洗滌有限公司	RMB20.0 million	80	PRC	Laundry business
<sup>†</sup> 南京卓惠洗滌有限公司	RMB1.6 million	100	PRC	Laundry business
唐山卓惠洗滌有限公司	RMB20.0 million	80	PRC	Laundry business
鄭州卓惠洗滌有限公司	RMB15.0 million	80	PRC	Laundry business
<sup>†1</sup> 上海港燃能源集團有限公司	RMB0.6 million	100	PRC	Leasee of an office
<sup>†</sup> 唐山皓華貿易有限公司	RMB500.0 million	100	PRC	LNG storage tanks and terminal
<sup>†</sup> Maanshan Hong Kong and China Water Company Limited	RMB212.6 million	100	PRC	Water supply and related businesses
<sup>#</sup> Wuhu Hong Kong and China Water Company Limited	RMB400.0 million	75	PRC	Water supply and related businesses
Wujiang Hong Kong & China Water Co., Ltd.	RMB860.0 million	80	PRC	Water supply and related businesses
<sup>†</sup> 安徽省江北華衍水務有限公司	RMB374.4 million	100	PRC	Water supply and related businesses

<sup>†</sup> Wholly foreign-owned enterprises

<sup>1</sup> Newly formed during the year

\* Listed on The Stock Exchange of Hong Kong Limited

<sup>#</sup> Direct subsidiaries of the Company

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas, water and related businesses on the Chinese mainland (Continued)</b>				
The following subsidiaries engaged in gas and related businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly.				
†U-Tech (Guang Dong) Engineering Construction Co., Ltd	RMB74.0 million	100	PRC	Engineering and related business
†An Shan Hong Kong and China Gas Company Limited	US\$20.0 million	100	PRC	Gas sales and related businesses
Baotou Hong Kong & China Gas Company Limited	RMB20.0 million	85	PRC	Gas sales and related businesses
Beipiao Hong Kong and China Gas Company Limited	RMB56.0 million	80	PRC	Gas sales and related businesses
Ben Xi Hongkong and China Gas Company Limited	RMB335.0 million	80	PRC	Gas sales and related businesses
Boxing Hong Kong & China Gas Co., Ltd	RMB40.0 million	65	PRC	Gas sales and related businesses
†Cang Xi Hong Kong and China Gas Company Limited	RMB20.0 million	100	PRC	Gas sales and related businesses
Cangxian Hong Kong & China Gas Co., Ltd.	RMB10.0 million	90	PRC	Gas sales and related businesses
Changting Hong Kong and China Gas Company Limited	RMB22.0 million	90	PRC	Gas sales and related businesses
Chaoyang Hongkong and China Gas Company Limited	US\$10.8 million	90	PRC	Gas sales and related businesses
Chi Ping Hongkong and China Gas Co. Ltd.	RMB40.0 million	85	PRC	Gas sales and related businesses
†Chizhou Hong Kong and China Gas Company Ltd	RMB70.0 million	100	PRC	Gas sales and related businesses
Da Yi Hong Kong and China Gas Company Limited	RMB20.0 million	100	PRC	Gas sales and related businesses
Dafeng Hong Kong and China Gas Company Limited	RMB80.0 million	51	PRC	Gas sales and related businesses
†Dalian Changxing Hong Kong and China Gas Co. Ltd.	US\$14.0 million	100	PRC	Gas sales and related businesses

† Wholly foreign-owned enterprises

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas, water and related businesses on the Chinese mainland (Continued)</b>				
The following subsidiaries engaged in gas and related businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly. (Continued)				
†Dalian Lvshun Hong Kong and China Gas Co. Ltd.	US\$15.0 million	100	PRC	Gas sales and related businesses
†Dalian Taipingwan Hong Kong and China Gas Company Limited	RMB40.0 million	100	PRC	Gas sales and related businesses
†Feicheng Hong Kong and China Gas Company Limited	RMB32.0 million	100	PRC	Gas sales and related businesses
Fuxin Hongkong and China Gas Company Limited	RMB77.2 million	90	PRC	Gas sales and related businesses
†Gao Chun Hong Kong and China Gas Co., Ltd.	US\$11.0 million	100	PRC	Gas sales and related businesses
†Gongzhuling Hong Kong and China Gas Company Limited	RMB88.0 million	100	PRC	Gas sales and related businesses
†Guilin Hong Kong & China Gas Co., Ltd.	RMB30.0 million	100	PRC	Gas sales and related businesses
†Huang Shan Hong Kong & China Gas Co., Ltd.	RMB40.0 million	100	PRC	Gas sales and related businesses
†Huang Shan Taiping Hong Kong & China Gas Co., Ltd.	US\$3.5 million	100	PRC	Gas sales and related businesses
†Huangshan Huizhou Hong Kong & China Gas Co., Ltd.	US\$2.1 million	100	PRC	Gas sales and related businesses
Huzhou Hong Kong and China Gas Company Limited	US\$10.5 million	98.9	PRC	Gas sales and related businesses
Ji Nan Ping Yin Hong Kong & China Gas Co., Ltd.	RMB200.0 million	82.2	PRC	Gas sales and related businesses
Jiajiang Hong Kong & China Gas Company Limited	RMB20.0 million	70	PRC	Gas sales and related businesses
Jianping Hong Kong and China Gas Company Limited	RMB58.0 million	80	PRC	Gas sales and related businesses
†Kazuo Hong Kong & China Gas Co., Ltd.	US\$6.4 million	100	PRC	Gas sales and related businesses

† Wholly foreign-owned enterprises

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas, water and related businesses on the Chinese mainland (Continued)</b>				
The following subsidiaries engaged in gas and related businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly. (Continued)				
†Laiyang Hong Kong and China Gas Co., Ltd.	US\$11.5 million	100	PRC	Gas sales and related businesses
†Lezhi Hong Kong and China Gas Company Limited	RMB30.0 million	100	PRC	Gas sales and related businesses
†Liuzhou Hong Kong & China Gas Co., Ltd.	RMB50.0 million	100	PRC	Gas sales and related businesses
†Longkou Hongkong and China Gas Company Limited	US\$7.1 million	100	PRC	Gas sales and related businesses
†Luliang Hong Kong & China Gas Company Limited	RMB52.0 million	100	PRC	Gas sales and related businesses
Maanshan Bowang Hong Kong & China Gas Co., Ltd.	US\$10.0 million	75.1	PRC	Gas sales and related businesses
†Maanshan Jiangbei Hong Kong and China Towngas Company Limited	US\$10.0 million	100	PRC	Gas sales and related businesses
Mei Shan Peng Shan Hong Kong and China Gas Company Limited	RMB20.0 million	70	PRC	Gas sales and related businesses
Mengcun Hong Kong & China Gas Co., Ltd.	RMB10.0 million	90	PRC	Gas sales and related businesses
Mianyang Heqing Towngas Co., Ltd.	RMB10.0 million	80	PRC	Gas sales and related businesses
†Mianyang Hong Kong & China Gas Co., Ltd.	RMB90.0 million	100	PRC	Gas sales and related businesses
Mianzhu Hong Kong and China Gas Co., Ltd.	RMB30.0 million	80	PRC	Gas sales and related businesses
Mianzhu Yuquan Hong Kong and China Gas Co., Ltd.	RMB5.0 million	80	PRC	Gas sales and related businesses
Miluo Hong Kong and China Gas Co. Ltd	RMB50.0 million	70	PRC	Gas sales and related businesses

† Wholly foreign-owned enterprises

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas, water and related businesses on the Chinese mainland (Continued)</b>				
The following subsidiaries engaged in gas and related businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly. (Continued)				
<i>Peng Xi Hong Kong and China Gas Company Limited</i>	<i>RMB20.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Qingdao Dong Yi Hong Kong and China Gas Company Limited</i>	<i>RMB30.0 million</i>	<i>60</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Qingdao Zhongji Hong Kong and China Gas Company Limited</i>	<i>RMB73.5 million</i>	<i>90</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Qinhuangdao Hong Kong &amp; China Gas Co., Ltd.</i>	<i>RMB15.0 million</i>	<i>51</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Shenyang Hong Kong &amp; China Gas Company Limited</i>	<i>US\$24.5 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Siping Hong Kong &amp; China Gas Company Limited</i>	<i>RMB45.0 million</i>	<i>80</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Tie Ling Hong Kong and China Gas Company Limited</i>	<i>RMB333.0 million</i>	<i>80</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Tongshan Hong Kong and China Gas Co. Ltd</i>	<i>RMB124.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Tongxiang Hong Kong and China Gas Company Limited</i>	<i>US\$7.0 million</i>	<i>76</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Wuhu Jiangbei Hong Kong &amp; China Gas Company Limited</i>	<i>RMB200.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Wulian Hong Kong &amp; China Gas Company Limited</i>	<i>RMB20.0 million</i>	<i>70</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Wuning Hong Kong &amp; China Gas Co., Ltd.</i>	<i>RMB40.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Xin Jin Hong Kong and China Gas Company Limited</i>	<i>RMB40.0 million</i>	<i>60</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Xingyi Hong Kong &amp; China Gas Company Limited</i>	<i>RMB50.0 million</i>	<i>70</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>

<sup>†</sup> Wholly foreign-owned enterprises

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas, water and related businesses on the Chinese mainland (Continued)</b>				
The following subsidiaries engaged in gas and related businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly. (Continued)				
<i>Yan Shan Hong Kong &amp; China Gas Co., Ltd.</i>	<i>RMB10.0 million</i>	<i>90</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Yang Jiang Hong Kong and China Gas Company Limited</i>	<i>RMB50.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Yangxin Hongkong &amp; China Gas Company Limited</i>	<i>RMB18.0 million</i>	<i>51</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Yifeng Hongkong and China Gas Co., Ltd.</i>	<i>RMB32.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Yingkou Hong Kong and China Gas Co., Ltd.</i>	<i>US\$9.4 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>Yue Chi Hong Kong and China Gas Company Limited</i>	<i>RMB30.0 million</i>	<i>90</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Zhao Yuan Hong Kong &amp; China Gas Co., Ltd.</i>	<i>RMB22.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Zhong Jiang Hong Kong and China Gas Company Limited</i>	<i>RMB30.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>Zhongxiang Hong Kong &amp; China Gas Co., Ltd.</i>	<i>RMB42.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>††</sup> <i>本溪滿族自治縣港華天然氣有限公司</i>	<i>RMB40.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>潮州楓溪港華燃氣有限公司</i>	<i>RMB60.0 million</i>	<i>60</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>成都新都港華燃氣有限公司</i>	<i>RMB50.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<i>大連瓦房店港華燃氣有限公司</i>	<i>RMB40.0 million</i>	<i>90</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>阜新大力燃氣有限責任公司</i>	<i>RMB13.9 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>
<sup>†</sup> <i>阜新新邱港華燃氣有限公司</i>	<i>RMB34.0 million</i>	<i>100</i>	<i>PRC</i>	<i>Gas sales and related businesses</i>

<sup>†</sup> Wholly foreign-owned enterprises

<sup>†</sup> Newly formed during the year

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Gas, water and related businesses on the Chinese mainland (Continued)</b>				
The following subsidiaries engaged in gas and related businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly. (Continued)				
<sup>†</sup> 廣西中威管道燃氣發展集團 有限責任公司	RMB30.0 million	100	PRC	Gas sales and related businesses
蘭陽港華燃氣有限公司	RMB150.0 million	100	PRC	Gas sales and related businesses
九江港華燃氣有限公司	RMB10.0 million	60	PRC	Gas sales and related businesses
<sup>†1</sup> 內蒙古港華天然氣有限公司	RMB2.0 million	100	PRC	Gas sales and related businesses
平昌港華燃氣有限公司	RMB20.0 million	90	PRC	Gas sales and related businesses
齊齊哈爾港華燃氣有限公司	RMB128.6 million	61.7	PRC	Gas sales and related businesses
<sup>†</sup> 三台港華燃氣有限公司	RMB30.0 million	100	PRC	Gas sales and related businesses
青島嶗山灣港華能源有限公司	RMB30.0 million	60	PRC	Gas sales and related businesses
清遠港華燃氣有限公司	RMB50.0 million	80	PRC	Gas sales and related businesses
韶關港華燃氣有限公司	RMB50.0 million	100	PRC	Gas sales and related businesses
松陽港華燃氣有限公司	RMB80.0 million	51.4	PRC	Gas sales and related businesses
威遠港華燃氣有限公司	RMB30.0 million	100	PRC	Gas sales and related businesses
修水港華燃氣有限公司	RMB30.0 million	80	PRC	Gas sales and related businesses
資陽港華燃氣有限公司	RMB30.0 million	90	PRC	Gas sales and related businesses
<sup>†</sup> C-Tech Laundry Company Limited	RMB50.0 million	100	PRC	Investment holding
<sup>†</sup> Towngas China Energy Investment Limited	RMB2,250.0 million	100	PRC	Investment holding
<sup>†</sup> Towngas Investments Limited	US\$200.0 million	100	PRC	Investment holding
內蒙古港億天然氣有限公司	RMB80.0 million	85	PRC	Mid-stream natural gas project
<sup>†</sup> Towngas Natural Gas Sales Co., Ltd	RMB50.0 million	100	PRC	Procurement of natural gas sources
四川港華合縱能源有限公司	RMB230.0 million	98.8	PRC	Upstream natural gas project
Heilongjiang Hong Kong & China Lianfu New Energy Company Limited	RMB13.0 million	55	PRC	Vehicle gas refilling stations
<sup>†</sup> Qiqihar Xingqixiang Gas Company Limited	RMB60.0 million	100	PRC	Vehicle gas refilling stations

<sup>†</sup> Wholly foreign-owned enterprises

<sup>1</sup> Newly formed during the year

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Smart Energy businesses</b>				
The following subsidiaries engaged in smart energy businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly.				
<sup>f</sup> Changzhou Towngas China Energy Co., Ltd.	RMB31.0 million	45	PRC	Distributed energy systems businesses
Maanshan Towngas China Energy Co., Ltd.	RMB50.0 million	85	PRC	Distributed energy systems businesses
Qingdao Towngas China Energy Co., Ltd.	RMB15.4 million	62.4	PRC	Distributed energy systems businesses
<sup>†</sup> Shenzhen Towngas China Energy Co., Ltd.	RMB6.0 million	100	PRC	Distributed energy systems businesses
Songyang Towngas China Energy Co., Ltd.	RMB30.0 million	85.4	PRC	Distributed energy systems businesses
Tangshan Fengnan Towngas China Energy Co., Ltd.	RMB96.0 million	51	PRC	Distributed energy systems businesses
<sup>†</sup> Xuzhou Economic and Technological Development Zone Towngas China Energy Co., Ltd.	RMB80.0 million	100	PRC	Distributed energy systems businesses
<sup>†</sup> 廣西港華智慧能源有限公司	RMB10.0 million	100	PRC	Distributed energy systems businesses
瀋陽智慧能源系統科技有限公司	RMB100.0 million	55	PRC	Distributed energy systems businesses
<sup>f</sup> 唐山港能投智慧能源有限公司	RMB80.0 million	49	PRC	Distributed energy systems businesses
<sup>f</sup> 徐州工業園區中港熱力有限公司	RMB160.0 million	49.8	PRC	Distributed energy systems businesses
陽信港能投智慧能源有限公司	RMB15.0 million	67.8	PRC	Distributed energy systems businesses

<sup>f</sup> The Group can exercise control over the boards of directors in these subsidiaries

<sup>†</sup> Wholly foreign-owned enterprises

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Smart Energy businesses (Continued)</b>				
The following subsidiaries engaged in smart energy businesses are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly. (Continued)				
<sup>†</sup> Anqiu Towngas China PV Power Generation Co., Ltd.	RMB47.0 million	100	PRC	Smart energy businesses
<sup>†</sup> Ben Xi Towngas China Energy Co., Ltd.	RMB100.0 million	100	PRC	Smart energy businesses
<sup>†</sup> Binzhou Xinrunfeng New Energy Co., Ltd.	RMB15.0 million	100	PRC	Smart energy businesses
Dangtu Towngas China Energy Co., Ltd.	RMB30.0 million	75	PRC	Smart energy businesses
Danyang Towngas China Energy Storage Power Plant Co., Ltd.	RMB30.0 million	90	PRC	Smart energy businesses
Fuxin Towngas China Energy Co., Ltd.	RMB145.0 million	58	PRC	Smart energy businesses
Liyang Hengdian Towngas China PV Power Generation Co., Ltd.	RMB22.5 million	60	PRC	Smart energy businesses
<sup>†</sup> Maanshan Zhengpugang New District Towngas China Photovoltaic Co., Ltd.	RMB3.5 million	100	PRC	Smart energy businesses
<sup>†</sup> Qingdao Towngas China Photovoltaic Co., Ltd.	RMB80.0 million	100	PRC	Smart energy businesses
<sup>†</sup> Qingdao Towngas China PV Power Generation Co., Ltd.	RMB29.0 million	100	PRC	Smart energy businesses
<sup>†</sup> Shuyang Zhongye Shukai New Energy Co., Ltd.	RMB30.0 million	100	PRC	Smart energy businesses
Suzhou Guangchen Towngas China PV Power Generation Co., Ltd.	RMB15.0 million	80	PRC	Smart energy businesses
Taizhou Towngas China Energy Co., Ltd.	RMB210.0 million	80	PRC	Smart energy businesses
<sup>†</sup> Tangshan Towngas China Integrated Energy Co., Ltd.	RMB150.0 million	100	PRC	Smart energy businesses
<sup>†</sup> Wuhan Towngas China Energy Co., Ltd.	RMB120.0 million	100	PRC	Smart energy businesses
<sup>†</sup> Yancheng Towngas China Smart Energy Co., Ltd.	RMB34.0 million	100	PRC	Smart energy businesses
<sup>†</sup> Yangtze River Delta Integrated Development Demonstration Zone (Suzhou Wujiang) Towngas China Energy Co., Ltd.	RMB150.0 million	100	PRC	Smart energy businesses
<sup>†</sup> 崇陽禾沐新能源科技有限公司	RMB10.0 million	100	PRC	Smart energy businesses
<sup>†</sup> 港華（深圳）碳資產運營有限公司	RMB40.0 million	100	PRC	Smart energy businesses
港華時代智慧能源科技（蘇州）有限公司	RMB20.0 million	65	PRC	Smart energy businesses
濟寧港華智慧能源有限公司	RMB200.0 million	85	PRC	Smart energy businesses
<sup>†</sup> 聊城港能投光伏發電有限公司	RMB60.0 million	100	PRC	Smart energy businesses

<sup>†</sup> Wholly foreign-owned enterprises

<sup>1</sup> Newly formed during the year

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>New Energy businesses</b>				
ECO Aviation Fuel Development Limited	HK\$2	100	Hong Kong	Aviation fuel facility
ECO Aviation Fuel Services Limited	HK\$10,000	100	Hong Kong	Aviation fuel facility
內蒙古易高煤化科技有限公司	RMB2,366.2 million	100	PRC	Chemical business
<sup>†</sup> Inner Mongolia Ke Jian Coal Company Limited	RMB486.0 million	100	PRC	Coal related business
Qinhuangdao YiTeng Trade Co., Ltd.	RMB129.1 million	100	PRC	Coal related business
易高清潔能源管理服務(西安)有限公司	RMB9.2 million	100	PRC	Consultancy service
<sup>†</sup> ECO Environmental Energy Investments Limited	US\$100.0 million	100	PRC	Investment holding
EcoCeres, Inc.	US\$38,671.3	65.5	Cayman Islands	Investment holding
<sup>†</sup> Yi An (Inner Mongolia) Holding Co., Ltd	US\$238.2 million	100	PRC	Investment holding
Shanxi ECO Coalbed Methane Co., Ltd.	RMB200.0 million	70	PRC	LNG business
Xuzhou ECO ZhongTai New Energy Co., Ltd.	US\$24.5 million	100	PRC	LNG business
寧夏易達天然氣有限公司	RMB210.0 million	70	PRC	LNG business
山東嘉祥易隆港務有限公司	RMB180.0 million	88	PRC	Logistics business
ECO Orient Resources (Thailand) Ltd.	THB 425.0 million	100	Thailand	Oil business
<sup>†</sup> ECO Services Management Company Limited	RMB80.0 million	100	PRC	Project management
易高環保能源科技(張家港)有限公司	RMB\$41.2 million	100	PRC	Research and development
<sup>†</sup> 易高新能源工程管理服務(深圳)有限公司	RMB15.0 million	100	PRC	Research and development
The following subsidiaries are held by EcoCeres, Inc. and the respective equity interest held by EcoCeres, Inc. is shown accordingly.				
<sup>††</sup> 怡創低碳科技(張家港)有限公司	US\$2.0 million	100	PRC	Biomass utilisation
ECO Biochemical Technology (Zhangjiagang) Company Limited	US\$67.0 million	100	PRC	Biomass utilisation
<sup>†</sup> Hebei ECO Biofuel Company Limited	RMB244.8 million	100	PRC	Biomass utilisation
<sup>†</sup> Hebei ECO Bioenergy Company Limited	RMB232.3 million	100	PRC	Biomass utilisation
ECO Biofuel Technology Company Limited	HK\$100	100	Hong Kong	Investment holding
ECO Biotechnology Company Limited	HK\$100	100	Hong Kong	Investment holding
ECO Environmental Investments (China) Limited	HK\$92	100	Hong Kong	Investment holding
<sup>†</sup> ECO Environmental Resources Investments Limited	US\$60.8 million	100	PRC	Investment holding
EcoCeres Limited (formerly known as ECO Resources Trading Limited)	HK\$100	100	Hong Kong	Trading of advanced biofuel
<sup>1</sup> EcoCeres Renewable Fuels Sdn. Bhd.	MYR125.2 million	100	Malaysia	Production and trading of advanced biofuel

<sup>†</sup> Wholly foreign-owned enterprises

<sup>1</sup> Newly formed during the year

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Other businesses</b>				
# P-Tech Engineering Company Limited	HK\$2	100	Hong Kong	Engineering and related businesses
U-Tech Engineering Company Limited	HK\$22.2 million	100	Hong Kong	Engineering and related businesses
M-Tech Instrument (Hong Kong) Limited	HK\$100	100	Hong Kong	Gas meter and related businesses
† 卓度計量技術（深圳）有限公司	RMB109.0 million	100	PRC	Gas meter and related businesses
<sup>1</sup> P-Tech Landfill Gas (NENT Extension) Company Limited	HK\$100	100	Hong Kong	Landfill gas project
P-Tech Landfill Gas (NENT) Limited (formerly known as ECO Landfill Gas (NENT) Limited)	HK\$100	100	Hong Kong	Landfill gas project
P-Tech Landfill Gas (SENT) Company Limited	HK\$100	100	Hong Kong	Landfill gas project
G-Tech Piping Company Limited	HK\$100	100	Hong Kong	PE piping system business
† 卓通管道系統（中山）有限公司	RMB41.0 million	100	PRC	PE piping system business
Starmax Assets Limited	HK\$90.0 million	100	British Virgin Islands/ Hong Kong	Property development
† 珠海卓銳高科信息技術有限公司	RMB7.0 million	100	PRC	System development & consulting services
卓銳智高（武漢）科技有限公	RMB51.2 million	100	PRC	System development & consulting services

# Direct subsidiaries of the Company

† Wholly foreign-owned enterprises

<sup>1</sup> Newly formed during the year

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Other businesses (Continued)</b>				
HDC Data Centre Limited	HK\$100	100	Hong Kong	Telecommunications business
TGT China Cloud Data Services (Harbin) Co., Ltd.	RMB112.0 million	88.8	PRC	Telecommunications business
Towngas Chibo Data Service (Jinan) Co., Ltd.	RMB200.0 million	92.1	PRC	Telecommunications business
†Towngas Telecom (Fengxian) Company Limited	RMB7.5 million	100	PRC	Telecommunications business
†Towngas Telecom (Peixian) Co., Ltd.	RMB9.0 million	100	PRC	Telecommunications business
Towngas Telecom (Shandong) Company Limited	RMB40.0 million	90.1	PRC	Telecommunications business
†Towngas Telecommunications (Shenzhen) Company Limited	RMB6.0 million	100	PRC	Telecommunications business
Towngas Telecommunications Fixed Network Limited	HK\$35.0 million	100	Hong Kong	Telecommunications business
北京馳波名氣通數據服務有限公司	RMB10.0 million	99.2	PRC	Telecommunications business
†大連名氣通數據服務有限公司 (formerly known as 大連億達名氣通數據服務有限公司)	RMB125.0 million	100	PRC	Telecommunications business
東莞名氣通數據服務有限公司 (formerly known as TGT Union Financial Data Services (Dongguan) Co., Ltd.)	RMB129.0 million	75.2	PRC	Telecommunications business
萊陽名氣通電訊有限公司	US\$1.6 million	90	PRC	Telecommunications business
†名氣通網絡(深圳)有限公司	RMB293.0 million	100	PRC	Telecommunications business
卓明信息(深圳)有限公司	RMB49.0 million	100	PRC	Telecommunications business

† Wholly foreign-owned enterprises

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Financing &amp; securities investments</b>				
C-Tech (Finance) Limited	HK\$100	100	Hong Kong	Financing
#Eagle Legend International Limited	HK\$100	100	Hong Kong	Financing
#HKCG (Finance) Limited	HK\$100	100	Hong Kong	Financing
Hong Kong and China Energy (Finance) Limited	HK\$100	100	Hong Kong	Financing
Hong Kong and China Power (Finance) Limited	HK\$100	100	Hong Kong	Financing
#Towngas (Finance) Limited	HK\$100	100	British Virgin Islands	Financing
Barnaby Assets Limited	US\$1	100	British Virgin Islands/ Hong Kong	Securities investment
#China Guide Resources Limited	HK\$100	100	Hong Kong	Securities investment
Danetop Services Limited	US\$1	100	British Virgin Islands/ Hong Kong	Securities investment
Investstar Limited	HK\$100	100	Hong Kong	Securities investment
#Premier Century Investments Limited	HK\$14.0 million	100	Hong Kong	Securities investment
Superfun Enterprises Limited	US\$1	100	British Virgin Islands/ Hong Kong	Securities investment
Upwind International Limited	US\$1	100	British Virgin Islands/ Hong Kong	Securities investment
The following subsidiaries engaged in financing & securities investments are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly.				
<i>TCCL (Finance) Limited</i>	<i>HK\$1</i>	<i>100</i>	<i>Hong Kong</i>	<i>Financing</i>
<i>TCCL (Project Finance) Limited</i>	<i>HK\$100</i>	<i>100</i>	<i>Hong Kong</i>	<i>Financing</i>

# Direct subsidiaries of the Company

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Investment holding</b>				
Apex Time Holdings Limited	HK\$100	100	Hong Kong	Investment holding
C-Tech Laundry (0003) Investment Company Limited	HK\$100	100	Hong Kong	Investment holding
ECO Advanced Carbon Materials Company Limited	HK\$100	100	Hong Kong	Investment holding
ECO Coal Chemical Technology (Inner Mongolia) Limited	HK\$100	100	Hong Kong	Investment holding
ECO Environmental Energy (China) Limited	HK\$100	100	Hong Kong	Investment holding
ECO Environmental Investments Limited	HK\$2	100	Hong Kong	Investment holding
ECO Natural Gas (China) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
ECO Natural Gas (Xian) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
ECO Orient Energy (Thailand) Ltd.	US\$12,000	100	Bermuda	Investment holding
EcoCeres, Inc.	US\$4	100	British Virgin Islands	Investment holding
Fanico Investments Limited	HK\$1	100	Hong Kong	Investment holding
G-Tech Piping Technologies Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong & China Gas (Anhui) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Changzhou) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Chaozhou) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (China) Limited	HK\$10,000	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Danyang) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Fengcheng) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Guangzhou) Limited	HK\$1,000	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Hebei) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Jilin Province) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Jinan) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Jintan) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Nanjing) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Investment holding (Continued)</b>				
Hong Kong & China Gas (Panyu) Limited	HK\$1,000	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Suzhou) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Taizhou) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Wuhan) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Wujiang) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Xuzhou) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Yixing) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Zhangjiagang) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas (Zhongshan) Limited	HK\$1,000	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Gas LNG International Trading Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Water (Suzhou) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Water (Wujiang) Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong & China Water Limited (carrying on business in Hong Kong as Hua Yan Water (China) Limited)	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
Hong Kong and China Energy Holdings Company Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Energy Investment Holdings Company Limited	US\$1	100	British Virgin Islands	Investment holding
Hong Kong and China Environmental Holdings Company Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Hainan) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Jiangsu) Agricultural Limited	HK\$100	100	Hong Kong	Investment holding

## Notes to the Consolidated Financial Statements

### Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Investment holding (Continued)</b>				
Hong Kong and China Gas (Jiangxi) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Jingxian) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Qianhai) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Suxiang) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Tangshan) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Xinmi) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Zhangshu) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Gas (Zhengzhou) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Power Holdings Company Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Power Investment Holdings Company Limited	US\$1	100	British Virgin Islands	Investment holding
Hong Kong and China Water (Anhui Jiangbei) Limited	HK\$100	100	Hong Kong	Investment holding
Hong Kong and China Water (Maanshan) Limited	HK\$100	100	Hong Kong	Investment holding
Meter Technologies Limited	HK\$100	100	Hong Kong	Investment holding
M-Tech Instrument Corporation (Holding) Limited	HK\$119	100	Hong Kong	Investment holding
P-Tech Renewable Energy Limited (formerly known as ECO Renewable Energy Limited)	HK\$100	100	Hong Kong	Investment holding
Sky Global Limited (carrying on business in Hong Kong as Hong Kong & China Gas (Jilin Gas) Limited)	US\$100	100	British Virgin Islands/ Hong Kong	Investment holding
TGT BROADBANDgo Company Limited	US\$1	100	British Virgin Islands	Investment holding
TGT Destic Company Limited	HK\$100	100	Hong Kong	Investment holding
TGT Fengxian Company Limited	HK\$100	100	Hong Kong	Investment holding
TGT Harbin Company Limited	HK\$100	100	Hong Kong	Investment holding
TGT Laiyang Company Limited	HK\$100	100	Hong Kong	Investment holding
TGT Peixian Company Limited	HK\$100	100	Hong Kong	Investment holding
TGT Shanghai Data Services Company Limited	HK\$100	100	Hong Kong	Investment holding
TGT Shenzhen Data Services Company Limited	HK\$100	100	Hong Kong	Investment holding

## Subsidiaries (Continued)

The following is a list of the principal subsidiaries as at 31st December 2022: (Continued)

Name	Issued share capital/ Registered capital	Percentage of issued/ registered capital held	Place of incorporation/ operation	Principal activity
<b>Investment holding (Continued)</b>				
TGT Songshanhu Company Limited	HK\$100	100	Hong Kong	Investment holding
TGT TGgo Company Limited	US\$1	100	British Virgin Islands	Investment holding
Towngas – China Power (HK) Integrated Energy Company Limited	HK\$100	100	Hong Kong	Investment holding
Towngas Global Net Limited	HK\$0.2	100	Cayman Islands/Hong Kong	Investment holding
<sup>#</sup> Towngas International Company Limited	US\$1	100	British Virgin Islands/ Hong Kong	Investment holding
<sup>#</sup> Towngas Investment Company Limited	HK\$2	100	Hong Kong	Investment holding
<sup>1</sup> Towngas Lifestyle Holding Company Limited	HK\$100	100	Hong Kong	Investment holding
Towngas Renewable Energy (HK) Company Limited	HK\$100	100	Hong Kong	Investment holding
Towngas Renewable Energy Company Limited	US\$1	100	British Virgin Islands	Investment holding
<sup>#</sup> Towngas Smart Energy Company Limited	US\$1	100	British Virgin Islands	Investment holding
Towngas Telecommunications (China) Limited	US\$1	100	British Virgin Islands	Investment holding
Towngas Telecommunications Company Limited	HK\$100	100	Hong Kong	Investment holding
The following subsidiaries engaged in investment holding are held by Towngas Smart Energy and the respective equity interest held by Towngas Smart Energy is shown accordingly.				
<sup>1</sup> TSEL (Gas) Holdings Limited	HK\$100	100	Hong Kong	Investment holding
<sup>1</sup> TSEL (Gas) Investment Limited	HK\$100	100	Hong Kong	Investment holding

<sup>#</sup> Direct subsidiaries of the Company

<sup>1</sup> Newly formed during the year

The above table lists the subsidiaries of the Group which, in the opinion of the directors of the Company, principally affected the results or assets of the Group. To give details of other subsidiaries would, in the opinion of the directors of the Company, result in particulars of excessive length.