The following discussion and analysis of our business, financial position and results of operations are based on and should be read in conjunction with our financial statements as at and for each of the years ended 31 December 2020, 2021 and 2022, including the notes thereto, as set out in the accountant's report as set out in Appendix I to this document and other financial information appearing elsewhere in this document. Our consolidated financial statements have been prepared in accordance with IFRS, which may differ in certain material aspects from generally accepted accounting principles in other jurisdictions. Unless the context otherwise requires, financial information described in this section is described on a consolidated basis.

The following discussion and analysis contain forward-looking statements that reflect our current views with respect to future events and financial performance. These statements are based on our assumptions and analysis in light of our experience and perception of historical trends, current conditions and expected future developments, as well as other factors we believe are appropriate under the circumstances. However, whether actual outcomes and developments will meet our expectations and predictions depends on a number of risks and uncertainties. In evaluating our business, you should carefully consider the information provided in this document, including the sections headed "Risk factors" and "Business".

OVERVIEW

We are a cross-provincial heat service provider mainly operating in the "Three North Region". According to the Frost & Sullivan Report, we were ranked No. 9 in terms of the aggregate actual heat service area in Shanxi Province, Gansu Province and Inner Mongolia Autonomous Region in 2022, with a market share of approximately 2.4% in terms of aggregate actual heat service area. We are principally engaged in the provision of heat services to residential and non-residential heat service customers under concession rights. In addition to our provision of heat services, which is considered as a public utility business, we also provide heat-related (i) engineering construction services; and (ii) EMC services. We have had over a decade of operational experience since we started our operation in 2010.

During the Track Record Period and up to the Latest Practicable Date, our principal business was the provision of heat services. As a core public utility service in northern China, such business has generated steady revenue and cash flow for us. For the years ended 31 December 2020, 2021 and 2022, we primarily generated revenue from our heat services. Revenue generated from our heat services for the years ended 31 December 2020, 2021 and 2022 was approximately RMB973.3 million, RMB1,035.2 million and RMB1,098.9 million, representing approximately 70.7%, 80.2% and 76.1% of our total revenue, respectively.

BASIS OF PREPARATION

The historical financial information of our Group has been prepared in accordance with International Financial Reporting Standards ("IFRS") and related interpretations issued by the International Accounting Standards Board (the "IASB").

The historical financial information of our Group has been prepared under the historical cost convention, as modified by the revaluation of financial assets at fair value through profit or loss and investment properties, which are carried at fair value.

The preparation of the historical financial information of our Group in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying our Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the historical financial information of our Group are disclosed in Note 4 to the accountant's report as set out in Appendix I to this document.

As at 31 December 2022, our Group had net current liabilities of approximately RMB551.8 million. The net current liabilities included contract liabilities amounting to approximately RMB440.5 million which represented advance receipts from customers in relation to heat service and pipeline connection fee. Such contract liabilities will normally be recognised as revenue in subsequent years and will not involve cash outflow in the future. Our Group's total borrowings as at 31 December 2022 amounted to approximately RMB881.2 million of which RMB246.8 million are classified as current liabilities, while its cash and cash equivalents amounted to RMB378.1 million as at the same date.

Management closely monitors our Group's financial performance and liquidity position. Our Group generated cash inflow from operating activities for each of the three years ended 31 December 2020, 2021 and 2022 which amounted to approximately RMB442.5 million, RMB500.0 million and RMB617.8 million, respectively. Our Group planned its capital expenditure activities in a conservative manner to avoid any excessively high liquidity risk exposure. Our management proactively managed the financing structure of our Group and was able to renew the short-term borrowings and raise new borrowings during the Track Record Period as necessary. As at 31 December 2022, our Group had unused banking facilities amounting to approximately RMB824.0 million. Although our Group failed to comply with certain covenants and financial undertakings of two long-term bank borrowings during the Track Record Period, we successfully obtained waivers from strict compliance with the covenants and financial undertakings of the two long-term bank borrowings from the relevant banks.

As at 31 December 2022, our Group had unused banking facilities amounting to approximately RMB824.0 million, of which approximately RMB60 million is available to our Group up to June 2023, RMB125.0 million is available to our Group up to July 2023 and could be extended to July 2024, RMB489.5 million is available to our Group up to April 2024, and the remaining RMB149.5 million is available to our Group up to December 2030.

Our Directors have reviewed our Group's cash flow projections for a period not less than twelve months from the balance sheet date, made due enquiries with management and considered the bases and assumptions of the projections. Our Directors are of the opinion that, taking into account our Group's financial performance and operating cash inflows, the capital expenditure plans, the continuous availability of existing banking facilities, our Group will have sufficient financial resources to support its operations and to meet its financial obligations as and when they fall due in the coming twelve months from 31 December 2022. The Historical Financial Information has been prepared on a going concern basis.

In preparation of the historical financial information as disclosed in this document, the following issued new standards and amendments to existing standards are not yet effective and have not yet been adopted by our Group:

		Effective for the
		financial year
		beginning on or after
IFRS 17	Insurance contracts	1 January 2023
IAS 1 and IFRS	Disclosure of accounting policies	1 January 2023
Practice Statement 2 (Amendments)		
IAS 8 (Amendments)	Definition of accounting	1 January 2023
	estimates	
IAS 12 (Amendments)	Deferred tax related to assets and	1 January 2023
	liabilities arising from a single transaction	
IFRS 16 (Amendments)	Lease liability on sale and	1 January 2024
	leaseback	
IAS 1 (Amendments)	Classification of liabilities as	1 January 2024
	current or non-current	
IAS 1 (Amendments)	Non-current liabilities with covenants	1 January 2024
IFRS 10 and IAS 28	Sale or contribution of assets	To be determined
(Amendments)	between an investor and its	
	associate or joint venture	

Our Group has commenced an assessment of the impact of these new or revised standards and amendments. According to the preliminary assessment made by our Directors, no significant impact on the financial performance and position of our Group is expected when they become effective.

KEY FACTORS AFFECTING OUR RESULTS OF OPERATIONS

Our results of operations and financial position have been and will continue to be affected by a number of factors, including those set out in "Risk factors" in this document and those discussed below:

Economic conditions, government policies or business environment in the "Three North Region"

During the Track Record Period, all of our revenue was generated from services provided in the "Three North Region". Due to such concentration, and also considering the provision of heat service is a regulated industry in the PRC, any development in government policies or business environment in the "Three North Region" materially affects our business, financial position and results of operations.

This includes (but is not limited to) (i) changes in the economic condition, the level of economic activities and the pace of urban development; (ii) the future regional development prospects; (iii) changes in government regulations and policies regarding heat service industry and its related businesses; and (iv) our ability to compete with other heat service providers operating in the "Three North Region" by renewing our current Concession Agreements upon their expiry and obtaining new concession rights. These macro-environmental factors are, generally speaking, beyond our control.

Our concession rights for heat services business

We were principally engaged in heat service projects under five concessions in Shanxi Province, Gansu Province and Inner Mongolia Autonomous Region. Our concession right to provide heat services in Xinmi of Henan Province was granted to us in December 2021. As at the Latest Practicable Date, we had reached the final stages of our preparation to provide heat services in Xinmi. We expect that our provision of heat services in Xinmi will commence from the 2023/2024 heat service period in or around November 2023.

We have concession rights under our Concession Agreements to supply heat for a total Concession Area of approximately 419.9 million sq.m. in the above-mentioned provinces and autonomous region. For more information relating to the terms of our Concession Agreements, see "Business – Our Concession Agreements" in this document. We cannot assure you that the Concession Agreements will not be terminated prior to their expiration or we will be successful in renewing the terms with the concession grantors prior to or upon their expiration. If there is change to our Concession Agreements or our Concession Area, our operation, our business, financial position and results of operations may be affected. See "Risk factors – Our concession rights for our heat services business will expire or may be terminated before expiration" in this document for related risks.

Expansion of actual heat service area

During the Track Record Period, our actual heat service area increased by approximately 2.4 million sq.m., or 6.4%, from approximately 37.4 million sq.m. as at 31 December 2020 to approximately 39.8 million sq.m. as at 31 December 2021. Our actual heat service area further increased by 2.1 million sq.m., or 5.3% to approximately 41.9 million sq.m. as at 31 December 2022. Growth of our actual heat service area was mainly attributable to (i) organic growth of actual heat service areas driven by urbanisation and municipal planning; and (ii) requests from customers for connection to our heat distribution network.

Pursuant to the relevant PRC laws and regulations, heat service area of a particular heat service provider and the construction of primary distribution pipelines thereof are subject to municipal planning by the relevant local government. We believe that our revenue generation relating to our actual heat service area will remain stable as our concession rights give us the exclusive right to provide heat services in our Concession Area under concession rights. Other heat service providers are unlikely to enter our actual heat service area due to the concession rights and other significant entry barriers. For more information relating to the entry barriers

of heat service market, see "Industry overview – Competitive analysis of the heat services industry in the PRC – Entry barriers of the heat services industry in the PRC" in this document. Since expansion of our actual heat service area is subject to municipal planning and authorisation by the local government, any future changes in the municipal planning by the local government or relevant laws and regulations, or our failure to obtain authorisation to operate in the areas we wish to expand, will materially affect our growth potential. See "Risk factors – Risks relating to our business and industry – Our actual heat service area may be adjusted due to unanticipated events" in this document.

Government grants and price subsidies

The provision of heat services is considered to be a public utility in northern China. It is regulated and at the same time supported by the PRC Government and local governments by way of government grants and price subsidies. During the Track Record Period, the government grants we received were primarily related to our heat service operation, and the price subsidies we received were related to our Shuozhou Project. Government grants are not recurring in nature nor are they determined by any formula that is related to heat rates and actual heat services areas of the heat service as they are determined by the local government on an incidental basis. Price subsidies to our Shuozhou Project granted to us are not one-off in nature and have been continuously granted to us. See "Risk factors – Risks relating to our business and industry – We may not be entitled to any form of government grants or subsidies, including price subsidies for our Shuozhou Project in the future, under the applicable PRC laws and regulations that are evolving from time to time" in this document.

Heat procurement price

During the Track Record Period, we procured heat from cogeneration plants for our Taiyuan Project, Shuozhou Project and Hulunbuir Project. Heat procurement price is subject to regulatory control. The price determined by the local government and pricing bureau is binding on us. For details, see "Business – Heat sources – Heat procured from cogeneration plants" in this document. Since we cannot automatically nor necessarily proportionally transfer any increased heat procurement cost in its entirety to our heat service customers, if heat procurement price increases significantly, our profitability is likely to be affected. For related information, see "Risk factors – Fluctuation in heat procurement cost may materially and adversely affect our profitability" in this document.

Fluctuations in coal procurement costs

Coal is the primary raw material used for the heat production by our coal-fired boilers in Lanzhou of Gansu Province. Coal is also a major raw material for heat production at the cogeneration plants from which we purchase heat. Accordingly, our heat services business is, to a certain extent, affected by fluctuations in coal price. See "Industry overview – Analysis of the heat services industry in the PRC – Coal price and heat services price – Coal price in China" and "Business – Heat sources – Heat produced by our coal-fired boilers" in this document. Since we may not necessarily be able to transfer all of the increased coal procurement cost to our heat service customers, if coal price increases, our profitability may be affected. For related information, see "Risk factors – Fluctuation in coal procurement cost may materially and adversely affect our profitability" in this document.

Preferential tax scheme

During the Track Record Period, some of our subsidiaries were entitled to preferential tax treatments as well as other incentives. However, these preferential tax schemes and incentives are reviewed by the relevant authority from time to time, and on an as-needed basis and therefore may be adjusted from time to time. We cannot assure that the preferential tax treatments and incentives we enjoy currently will remain unchanged going forward. Our tax expenses may increase and incentives can be withdrawn, which may affect our financial position accordingly. See "Risk factors – Risks relating to our business and industry – There is no assurance that we will continue to receive the preferential tax treatment or other incentives we currently enjoy" in this document for relevant information.

Heat rate mechanism

Heat rate which applies to all our heat service projects is subject to regulatory control in the PRC. The heat rate applies to all our heat service projects. According to the PRC Pricing Law (《中華人民共和國價格法》), the PRC Government may formulate, adjust or guide public utilities prices. Local government authorities, upon approval by the local municipal government, usually set the benchmark heat rates. For details, see "Business – Heat distribution – Pricing" and "Regulatory overview – Overview – Pricing" in this document.

It is possible that heat rates in the geographical regions in which we operate our heat service projects are adjusted downwards. Meanwhile, our procurement prices (such as our coal procurement price, being our primary procurement cost) may be adjusted upwards by our suppliers. Since we cannot necessarily transfer the entire increased costs to our heat service customers, our financial performance may be adversely affected. See "Business – Heat distribution – Pricing" and "Risk factors – Fluctuation in coal procurement cost may materially and adversely affect our profitability" in this document for more information.

IFRIC 12 Service Concession Arrangements

Set out below is a simplified diagram illustrating the accounting treatment of service concession arrangements under IFRS:

Criteria		1	Service Concession Arra	ngement
			Construction phase	Operation phase
 The grantor of the project controls or regulates what services we must provide with the heat supply facilities, to whom we must provide the service, and at what price 		Statements of comprehensive income	 construction revenue recognised construction costs charged 	 operation revenue (service fee) received/receivable) recognised amortisation charge of
2) The grantor of the project controls, through ownership, beneficial entitlement or otherwise, any significant residual interest in the heat supply facilities at the end of the service concession arrangement or the heat supply facilities are used in the service concession arrangement for their entire useful life	Project fulfilling all of (1), (2) and and (3) with non-guaranteed revenue stream	Statements of financial position	 an intangible asset is recognised to the extent that we receive a right to charge users of our heat 	 intangible assets intangible assets are amortised on a straight-line basis over the concession period
3) The heat supply facilities are constructed or acquired from a third party for the purpose of the service concession arrangement or existing heat supply facilities of the grantor of the project to which we are given access for the purpose of the service concession arrangement	······································	Statements of cash flows	 services payment for construction costs is classified under investing activities no cash flow effect for construction revenue 	 service fee received is classified under operating activities

Impact of the accounting treatment for service concession arrangements

The accounting treatment for service concession arrangements involves judgement and affects the presentation of our results of operation. We have entered into Concession Agreements with several governmental authorities to operate and manage our heat service facilities for a term ranging from 25 to 30 years. IFRIC 12 Service Concession Arrangements is applicable to our concession agreements and services provided thereunder. Under these service concession arrangements:

- the concession grantors control or regulate the services which we must provide with the infrastructure, to whom we must provide the services, and at what price; and
- the concession grantors generally control any significant residual interest in the infrastructure at the end of the term of the arrangement. All heat service related infrastructure invested (and, in some cases, under construction at the time) by us and the right to use in relation to heat service-related assets which were not invested by us will generally be transferred to the concession grantors upon the expiry of the relevant concession term.

Under IFRIC 12 Service Concession Arrangements, we recognise revenue during both the construction phase and the operation phase of our heat service projects. We recognise non-cash revenue during the construction phase, which appears on our financial statements as revenue from "construction services for our concession operations". Such revenue is affected by the number of our heat service projects under construction, the estimated fair value of the construction work of our heat service projects, and the stage of completion.

The fair value of our construction services was calculated as the estimated total construction cost plus a profit margin which was based on the prevailing market rate applicable to construction services rendered in a similar location. Such profit margin was estimated with reference to the profit margin range of 14.6% to 16.35% which was derived from the valuation conducted by Vincorn Consulting and Appraisal Limited, an independent valuer.

The valuation in estimating the gross profit margins of our Group's engineering construction services under the concession arrangements has been prepared in accordance with the International Valuation Standards published by the International Valuation Standards Council. The independent valuer has applied the market approach in estimating the gross profit margins of our Group's construction services under the concession arrangements.

The independent valuer conducted research on companies for the estimation of the gross margins for our Group's construction service under the concession arrangements. The independent valuer identified companies which are companies: (i) listed on the stock exchanges of the PRC or Hong Kong; and (ii) principally engaged in the construction service business for the power generation and heat services industry.

The following table sets out our revenue by project phase in which the revenue was recognised for the years indicated.

	For the year ended 31 December						
	2020	2021	2022				
	RMB'000	RMB'000	RMB'000				
Construction phase							
 Construction service for our concession operations 	349,356	208,133	271,010				
Operation phase	519,550	200,100	271,010				
- Heat services	973,277	1,035,153	1,098,943				
Total	1,322,633	1,243,286	1,369,953				

The following table sets out the sensitivity analysis of our construction services for our concession operations for the years ended 31 December 2020, 2021 and 2022 in relation to movements in the profit margin for the respective years indicated.

	For the year ended 31 December							
	202	20	202	2021		22		
	Changes in revenue	% change	Changes in revenue	% change	Changes in revenue	% change		
	RMB'000		RMB'000		RMB'000			
Increase/(decrease) of profi	t margin							
5%	2,328	0.67%	1,462	0.70%	1,726	0.64%		
3%	1,397	0.40%	877	0.42%	1,036	0.38%		
1%	466	0.13%	292	0.14%	345	0.13%		
-1%	(466)	-0.13%	(292)	-0.14%	(345)	-0.13%		
-3%	(1,397)	-0.40%	(877)	-0.42%	(1,036)	-0.38%		
-5%	(2,328)	-0.67%	(1,462)	-0.70%	(1,726)	-0.64%		

While we record revenue on the statement of comprehensive income during the construction phase, we record intangible assets correspondingly. An intangible asset is recognised to the extent that the right to charge our heat service customers is dependent upon the usage or amount of our heat services rendered. The intangible asset is amortised on a straight-line basis over the remaining concession period when it becomes available for use, that is, at the point in time when we exercise our concession rights to charge public users.

The following table sets out the movements in the balances of our Group's intangible assets (operating concessions) during the Track Record Period.

	Intangible assets (operating concessions)
	RMB'000
As at 1 January 2020	2,852,216
Additions	458,969
Amortisation	(164,396)
As at 31 December 2020	3,146,789
Additions	208,132
Disposal	(4,348)
Amortisation	(183,008)
As at 31 December 2021	3,167,565
Additions	359,084
Disposal	(4,640)
Amortisation	(193,770)
Impairment	(9,398)
As at 31 December 2022	3,318,841

Intangible assets are subject to impairment testing when there is an impairment indicator, i.e. whenever events or circumstances indicate that the carrying amount may not be recoverable. An example of an impairment indicator is if the actual net cash inflow or operating profit or loss are significantly worse than budgeted. See "Discussion of certain items of consolidated statements of financial position – Non-current assets and liabilities – Intangible assets" in this section for details.

Revenue from heat services is recognised on a straight-line basis over the period (i.e. the heat service period usually starts from October of each year and ends in April of the following year) because the customer simultaneously receives and consumes the benefits provided by our Group.

As a result of the aforementioned business model, we incur significant cash outflow for the cost of the construction in the early years of our heat service projects, and are exposed to operational risk and the credit risk of our customers until the end of the concession term. Despite we recognise revenue in respect of our engineering construction services during the same period, we will not receive any payment in cash for such engineering construction services. We will only receive actual cash inflow when we charge our heat service customers during the operation period. Therefore, it results in a cash flow mismatch between the construction phase and the operation phase.

Services and customer mix

During the Track Record Period, the majority of our revenue was derived from the provision of heat services relating to the five concessions all of which are BOT contracts.

For the years ended 31 December 2020, 2021 and 2022, revenue generated from our heat services, which includes fees from customers for provision and distribution of heat, price subsidies from local government and pipeline connection fee, was approximately RMB973.3 million, RMB1,035.2 million and RMB1,098.9 million, representing approximately 70.7%, 80.2% and 76.1% of our total revenue, respectively; revenue generated from our engineering construction services was approximately RMB362.1 million, RMB229.1 million and RMB301.6 million, representing approximately 26.3%, 17.8% and 20.9% of our total revenue, respectively; and revenue generated from our EMC services was approximately RMB4.2 million, RMB4.0 million and RMB3.0 million, representing approximately 0.3%, 0.3% and 0.2% of our total revenue, respectively.

Cash flow and external financing

From time to time, we may need external financing to supplement cash flows from operations in order to meet our payment obligations in full and on time. During the Track Record Period, our borrowings were primarily bank borrowings, but also included other borrowings. If we fail to secure sufficient external financing or generate sufficient cash flows from our operations to finance our projects, or if our finance costs increase materially, our business, financial position, results of operation and prospects may be affected.

Seasonality

Our heat services are affected by seasonality. During the Track Record Period, our heat services experienced seasonality due to its business nature. Revenue generated from heat services was recognised over the heat service period, usually begins from October of each year to April of the following year, by reference to the progress towards complete satisfaction of the performance obligation. As a result, our revenue generated from the provision of heat services was higher in the first and fourth quarter during each financial year. In addition, we incurred our cost of sales for the provision of heat services during different periods of the year. Heat and coal procurement costs were typically incurred over the heat service period, while maintenance and repair costs in relation to our concession operation were incurred outside the heat service period during which maintenance and repair works were carried out and the rest of the cost components such as employee expenses and depreciation of right-of-use assets spread throughout the year. In addition, our financial performance of heat services may vary depending on weather condition. See "Risk factors – Risks relating to our business and industry - Our heat service operation is affected by seasonality" in this document for more details. Therefore, our quarterly or interim results may not be a meaningful indicator of our overall performance.

Our engineering construction services also experienced seasonality during the Track Record Period since most of our engineering construction services were conducted outside the heat service period in order to avoid interruption or suspension of heat services to our heat service customers. Therefore, revenue generated from our engineering construction services was generally recognised outside the heat service period. Therefore, you should not solely rely on our quarterly or interim results to assess our annual performance.

Impact of COVID-19

An outbreak of respiratory illness caused by a novel coronavirus (COVID-19) was first reported in late 2019 and continues to spread across the PRC and globally. In March 2020, the World Health Organisation characterised the outbreak of COVID-19 as a global pandemic. As at the Latest Practicable Date, measures responding to COVID-19 relating to temporary travel restrictions and shutdown of certain business operations had been lifted, leading to the gradual resumption of normal commercial and industrial business operations. For details of the impact of COVID-19 on our business operations, see "Business – Effects of the COVID-19 outbreak – Effects of the COVID-19 outbreak on our business operations" in this document.

The situation of the COVID-19 pandemic is constantly evolving and it remains uncertain when it will end. The COVID-19 pandemic has, and may continue to, adversely affect the global and PRC's economy. As a result, our business operation and financial position may be adversely affected.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

We have identified certain accounting policies that are most significant to the preparation of our historical financial information. Some of our significant accounting policies involve subjective assumptions and estimates, as well as complex judgements by our management relating to accounting items. Our Group makes estimates and assumptions concerning the future. Estimates and judgements are continuously evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results. Our Directors believe that accounting policies in relation to (i) service concession arrangements; (ii) impairment assessment of intangible assets (iii) useful lives of the property, plant and equipment; (iv) expected credit loss for receivables; (v) current tax and deferred income tax; and (vi) revenue recognition are amongst the most significant accounting estimates and judgements used in the preparation of our financial statements. See Note 4 to the accountant's report as set out in Appendix I to this document for the critical accounting estimates and judgements.

IFRIC 12 Service Concession Arrangements

We have entered into Concession Agreements with several governmental authorities to operate and manage our heat service facilities for a term ranging from 25 to 30 years. IFRIC 12 is applicable to our Concession Agreements and services provided thereunder.

As stated in the accountant's report as set out in Appendix I to this document, the key assumptions in calculating the value of the concession rights under the Concession Agreements include a basis of the estimated total construction cost plus a profit margin ranging from approximately 14.6% to 16.35% during the Track Record Period.

Initial investment

During the initial construction of heat service facilities for our provision of heat services, we recognised non-cash revenue in respect of our engineering construction services under our Concession Agreements which is calculated according to the total construction costs plus a reasonable profit margin based on the prevailing market rate applicable to similar construction services.

Revenue from engineering construction services is recognised over time by measuring the progress towards complete satisfaction of the services. The progress towards complete satisfaction of the performance obligation is measured based on our Group's efforts or inputs to the satisfaction of the performance obligations, by reference to the costs incurred up to the end of the reporting period as a percentage of total estimated costs for each contract. Significant judgement is exercised when determining the fair value of the consideration for the construction service. An estimate of the construction margin was used in the process of determining such fair value.

While we record revenue in respect of our engineering construction services on the statement of comprehensive income during the construction phase, we record intangible assets accordingly. The initial consideration for the acquisition of our concession rights and the establishment of heat service facilities is accounted for as an intangible asset (operating concession), which is recognised to the extent that the accumulating right to charge our heat service customers is dependent upon the usage or amount of our heat services rendered, and is not an unconditional right to receive cash.

Operational phase post acquisition

Our Group recognises revenue (i) for the upgrading and expansion of the existing heat service facilities; and (ii) for heat service operation, whereby revenue is recognised for the provision of heat services.

(i) Upgrading and expansion of the existing heat service facilities

Similar to the initial establishment of the heat service facilities, during the upgrading and expansion of the heat service facilities, our Group recognised non-cash revenue in respect of the heat service facilities construction services. The construction services revenue for the upgrading and expansion services under the Concession Agreement is calculated as the total construction costs plus a reasonable profit margin advised by Vincorn Consulting and Appraisal Limited, an independent valuer, based on prevailing market rate applicable to comparable construction services.

Revenue from upgrading and expansion of the existing heat service facilities is recognised over time by measuring the progress towards complete satisfaction of the construction. The progress towards complete satisfaction of the performance obligation is measured based on our Group's efforts or inputs to the satisfaction of the performance obligations, by reference to the costs incurred up to the end of the reporting period as a percentage of total estimated costs for each contract. Significant judgement is exercised in determining the fair value of the consideration for the construction service. An estimate of the construction margin was used in the process of determining such fair value.

(ii) Heat service operation during the concession period

During the operating period when heat services are provided, revenue is recognised on a straight line basis over the scheduled period (i.e. from October of each year to April of the following year) because the customers simultaneously receive and consume the benefits provided by our Group. The revenue is measured mainly by reference to the proportion of days of provision of heat to total number of days of the scheduled period as regulated by the government. Costs for heat service operation are recognised the period in which they are incurred.

Our Group depreciates the property, plant and equipment, and amortises the intangible assets in accordance with the accounting policies. See Note 2.7 and Note 2.9 to the accountant's report as set out in Appendix I to this document. The estimated useful lives reflect our Directors' estimate of the periods that our Group intends to derive future economic benefits from the use of these assets.

Our Group makes allowances on receivables based on assumptions about risk of default and expected loss rates. Our Group used judgement in making these assumptions and selecting the inputs to the impairment calculation, based on our Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period. Where the expectation is different from the original estimate, such difference will impact the carrying amount of trade and other receivables and deposits and the impairment losses in the periods in which such estimate has been changed. For details of the key assumptions and inputs used, see Note 3.1(b) to the accountant's report as set out in Appendix I to this document.

Revenue recognition

Revenue is measured based on the consideration specified in a contract with a customer and excludes amounts collected on behalf of third parties. Our Group recognises revenue when we transfer control over a product or service to a customer. This may be at a point in time or over time.

Our Group satisfies a performance obligation and recognises revenue over time, if one of the following criteria is met:

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

If none of the above conditions are met, our Group recognises revenue at a point in time at which the performance obligation is satisfied for the sale of that good or service when control has been passed. If control of the product or service is transferred over time, revenue is recognised over the period of the contract by measuring the progress towards complete satisfaction of that performance obligation.

When the contract contains a financing component which provides the customer a significant benefit of financing the transfer of goods or services to the customer for more than one year, revenue is measured at the present value of the amount receivable, discounted using the discount rate that would be reflected in the separate financing transaction between our Group and the customer at contract inception.

When another party is involved in providing goods or services to a customer, our Group determines whether the nature of its promise is a performance obligation to provide the specified goods or services itself (i.e. our Group is a principal) or to arrange for those goods or services to be provided by the other party (i.e. our Group is an agent).

Our Group is a principal if we control the specified good or service before that good or service is transferred to a customer. Our Group is an agent if its performance obligation is to arrange for the provision of the specified good or service by another party. In this case, our Group does not control the specified good or service provided by another party before that good or service is transferred to the customer.

When our Group acts as a principal, we recognise revenue in the gross amount of consideration to which we expect to be entitled in exchange for the specified good or service transferred. When our Group acts as an agent, we recognise revenue in the amount of any fees or commission to which we expect to be entitled in the exchange for arranging for the specified goods or services to be provided by the other party.

(i) Provision and distribution of heat (including price subsidies from government)

Revenue from the provision and distribution of heat is recognised on a straight-line basis over the period when heat is provided to customers because the customers simultaneously receive and consume the benefits provided by our Group. The revenue is measured by reference to the proportion of the number of days of provision of heat to the total number of days of the scheduled period as regulated by the local government.

In certain region, our Group provides heat and charges users at prices substantially lower than those in certain nearby regions and the local government of that region gives price subsidies to our Group. Our Group has assessed that such price subsidies, as determined by the relevant concession agreement and a specific formula pursuant to a notice issued to our Group by the local government, are in substance compensations for our Group's revenue due to the lower heat rates and our Group has contractual rights to receive such price subsidies in a recurring rather than an incidental manner. Therefore, the price subsidies receivable from the local government of that region are recognised as revenue over the scheduled period where there is a reasonable assurance that the price subsidies from local government recognised as revenue during the Track Record Period in accordance with IFRS 15, see "– Description of major components of our results of operations – Revenue – Heat services – (ii) Price subsidies from local government" below.

(ii) Engineering construction services

Revenue from engineering construction services is recognised over time by measuring the progress towards complete satisfaction of the services. The progress towards complete satisfaction of the performance obligation is measured based on our Group's efforts or inputs to the satisfaction of the performance obligations, by reference to the costs incurred up to the end of the reporting period as a percentage of total estimated costs for each contract.

(iii) Pipeline connection fees

Our Group receives pipeline connection fees from customers for constructing the primary distribution pipelines and connecting them to the premises of our customers. The pipeline connection fees received from customers is non-refundable and is to facilitate the future service of provision of heat. Revenue from pipeline connection fees is recognised on a straight-line basis over the applicable Operation Period.

(iv) Heat transmission services

Revenue from the provision of the heat transmission service is recognised at the point in time when control of heat is transferred to the customers.

(v) Sale of goods

Our Group sells heat exchange facilities, meters and other heat supply related equipment to our customers. Revenue from sale of goods is recognised at the point in time when the control of the product is transferred to the customer which generally coincides with delivery and acceptance of the goods sold.

(vi) Energy management services

Our Group provides energy management services to a corporate customer by helping it to save energy for its heat supply facilities. Revenue from energy management services is recognised over the period when the service is rendered.

(vii) Designing services

Revenue from designing services rendered, including designing, consulting and feasibility studies with respect to the heat supply projects, is recognised at the point in time when the customers are satisfied with the designing results delivered by our Group.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

The following table sets out our consolidated statements of comprehensive income with line items in absolute amounts for the years indicated. Our historical results presented below are not necessarily indicative of the results that may be expected for any future period.

	For the year ended 31 December					
	2020	2021	2022			
	RMB'000	RMB'000	RMB'000			
Revenue	1,376,321	1,290,635	1,443,732			
Cost of sales	(1,084,931)	(976,969)	(1,146,851)			
Gross profit	291,390	313,666	296,881			
Administrative expenses (Provision)/reversal of impairment losses on financial assets and contract	(124,951)	(141,306)	(139,589)			
assets	(13,548)	995	23,118			
Other income	48,384	73,584	53,742			
Other losses – net	(157)	(19)	(3,603)			
Operating profit	201,118	246,920	230,549			

	For the ye	ear ended 31 D	ecember
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Finance income	26,393	29,354	26,314
Finance costs	(92,866)	(81,503)	(84,065)
Finance costs – net	(66,473)	(52,149)	(57,751)
Share of profit of associates accounted			
for using the equity method	9,282	11,960	13,538
Profit before income tax	143,927	206,731	186,336
Income tax expense	(45,611)	(35,671)	(45,961)
Profit and total comprehensive			
income for the year	98,316	171,060	140,375
Profit and total comprehensive			
income attributable to:			
- Owners of our Company	66,830	110,696	96,431
- Non-controlling interests	31,486	60,364	43,944
	98,316	171,060	140,375
Earnings per share (expressed in			
RMB per share)			
- Basic and diluted	0.30	0.49	0.43

DESCRIPTION OF MAJOR COMPONENTS OF OUR RESULTS OF OPERATIONS

Revenue

For the years ended 31 December 2020, 2021 and 2022, our revenue was approximately RMB1,376.3 million, RMB1,290.6 million and RMB1,443.7 million, respectively. During the Track Record Period, our revenue was mainly generated from (i) our heat services; and (ii) our engineering construction services. During the Track Record Period, all of our revenue was generated in the PRC.

The following table sets out our revenue by type of service/product for the years indicated.

	For the year ended 31 December						
	2020		2021		2022		
	(RMB'000)	%	(RMB'000)	%	(RMB'000)	%	
Heat services							
- Fees from customers for							
provision and distribution of heat	739,940	53.8	778,442	60.3	853,542	59.1	
- Price subsidies from local							
government	167,908	12.1	182,500	14.2	161,676	11.2	
- Pipeline connection fee	65,429	4.8	74,211	5.7	83,725	5.8	
Sub-total	973,277	70.7	1,035,153	80.2	1,098,943	76.1	
Engineering construction services	362,050	26.3	229,147	17.8	301,567	20.9	
EMC services	4,157	0.3	3,972	0.3	3,002	0.2	
Heat transmission services	16,961	1.2	14,533	1.1	5,521	0.4	
Sale of goods	16,344	1.2	5,756	0.4	23,581	1.6	
Designing services	1,658	0.1	518	0.1	6,585	0.5	
Others	1,874	0.2	1,556	0.1	4,533	0.3	
Total	1,376,321	100.0	1,290,635	100.0	1,443,732	100.0	

Heat services

During the Track Record Period, revenue generated from our heat services included (i) fees from customers for provision and distribution of heat, (ii) price subsidies from local government, and (iii) pipeline connection fee, the majority of which was attributable to (i) and (ii).

During the Track Record Period, our revenue generated from heat services mainly derived from Shanxi Province, Gansu Province and Inner Mongolia Autonomous Region.

The following table sets out a breakdown of revenue generated from our provision and distribution of heat for the years indicated.

	For the ye	ear ended 31 D	ecember
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Heat services			
- Fees from customers for provision			
and distribution of heat	739,940	778,442	853,542
- Price subsidies from local government	167,908	182,500	161,676
- Pipeline connection fee	65,429	74,211	83,725
	973,277	1,035,153	1,098,943

(i) Fees from customers for provision and distribution of heat

Our customers for our provision and distribution of heat generally included residential and non-residential customers. Revenue from our provision and distribution of heat amounted to RMB739.9 million, RMB778.4 million and RMB853.5 million for the years ended 31 December 2020, 2021 and 2022, respectively. Revenue from our provision and distribution of heat is recognised on a straight line basis over the scheduled heat service period.

The table below sets out our revenue generated from (i) our fees from customers for provision and distribution of heat by heat service project and (ii) price subsidies from local government in Shuozhou, for the years indicated.

	For the year ended 31 December					
	2020		2021		2022	
	RMB'000	%	RMB'000	%	RMB'000	%
Projects under concession						
Shanxi Province						
- Taiyuan Project	106,178	11.7	122,545	12.8	135,768	13.4
- Shanxi Demonstration						
Zone Project	7,371	0.8	9,917	1.0	17,263	1.7
- Shuozhou Project	435,513	48.0	466,224	48.5	453,996	44.7
Gansu Province						
– Lanzhou New Area						
Project	166,929	18.4	151,411	15.8	185,108	18.2

	For the year ended 31 December							
	2020		2021		2022			
	RMB'000	%	RMB'000	%	RMB'000	%		
Inner Mongolia Autonomous Region – Hulunbuir Project	187,376	20.6	203,100	21.1	217,803	21.5		
Sub-total	903,367	99.5	953,197	99.2	1,009,938	99.5		
Others	4,481	0.5	7,745	0.8	5,280	0.5		
Total	907,848	100.0	960,942	100.0	1,015,218	100.0		

For the years ended 31 December 2020, 2021 and 2022, revenue from provision and distribution of heat for our Taiyuan Project amounted to RMB106.2 million, RMB122.5 million and RMB135.8 million, representing 11.7%, 12.8% and 13.4% of our total revenue from provision and distribution of heat, respectively.

For the years ended 31 December 2020, 2021 and 2022, our revenue from provision and distribution of heat for our Shanxi Demonstration Zone Project amounted to RMB7.4 million, RMB9.9 million and RMB17.3 million, representing 0.8%, 1.0% and 1.7% of our total revenue from provision and distribution of heat, respectively.

For the years ended 31 December 2020, 2021 and 2022, revenue from provision and distribution of heat for our Shuozhou project, amounted to RMB435.5 million, RMB466.2 million and RMB454.0 million, representing 48.0%, 48.5% and 44.7%, respectively, being the largest portion of the total revenue from provision and distribution of heat over the Track Record Period.

For the years ended 31 December 2020, 2021 and 2022, our revenue from provision and distribution of heat for our Lanzhou New Area Project amounted to RMB166.9 million, RMB151.4 million and RMB185.1 million, representing 18.4%, 15.8% and 18.2% of our total revenue from provision and distribution of heat, respectively.

For the years ended 31 December 2020, 2021 and 2022, our revenue from provision and distribution of heat for our Hulunbuir Project amounted to RMB187.4 million, RMB203.1 million and RMB217.8 million, representing 20.6%, 21.1% and 21.5% of our total revenue from provision and distribution of heat, respectively.

Revenue from provision and distribution of heat in other locations in Shanxi Province and in other regions represented our heat services independent from our concessions. In aggregate, such revenue amounted to approximately RMB4.5 million, RMB7.7 million and RMB5.3 million for the years ended 31 December 2020, 2021 and 2022, respectively.

Our customers of provision and distribution of heat generally included two types, namely (i) residential heat service customers, and (ii) non-residential heat service customers (including but not limited to commercial operators of office buildings or shopping malls, manufacturing companies, public facilities like hospital and train station, etc.)

The table below sets out our revenue generated from customers for our provision and distribution of heat by customer type for the years indicated.

	For the year ended 31 December							
	2020		2021		2022			
	RMB'000	%	RMB'000	%	RMB'000	%		
Residential	433,627	58.6	484,139	62.2	519,806	60.9		
Non-residential	306,313	41.4	294,303	37.8	333,736	39.1		
Total	739,940	100.0	778,442	100.0	853,542	100.0		

Residential

Our heat services to residential heat service customers amounted to RMB433.6 million, RMB484.1 million and RMB519.8 million respectively, representing 58.6%, 62.2% and 60.9% of our total revenue from heat services for the years ended 31 December 2020, 2021 and 2022. The amount increased steadily during the Track Record Period as a result of an increase in the total number of our residential customers that used heat during the heat service periods, along with the growth of demand for our heat services leading to the expansion of our actual heat service area under our concessions. During the Track Record Period, the monthly heat rates for our residential heat service customers ranged from RMB2.5 per sq.m. to RMB5.8 per sq.m. in the regions we are operating. The monthly heat rate for residential heat service customers for our Lanzhou New Area Project increased from RMB5.0 per sq.m. to RMB5.8 per sq.m. for the 2022/2023 heat service period. Save for such increase, the heat rates remained unchanged in each of Shanxi Province, Gansu Province and Inner Mongolia Autonomous Region during the Track Record Period. See "Business – Heat distribution – Pricing – Heat rate for heat service users" in this document for a summary of our heat rate.

Non-residential

Our heat services to non-residential customers amounted to RMB306.3 million, RMB294.3 million, and RMB333.7 million, respectively, representing 41.4%, 37.8%, and 39.1% of our total revenue from heat services in the respective years. The revenue from our non-residential heat service customers decreased for the year ended 31 December 2021 as a result of a decrease in the total number of our non-residential heat service customers using heat due to the cessation of our heat services provided to certain non-residential heat service customers in Lanzhou City during 2021 (such as hotel operators and other commercial operators whose businesses were closed). The revenue from our non-residential heat service customers increased to approximately RMB333.7 million for the year ended 31 December 2022 as compared to approximately RMB294.3 million in 2021 due to the increase in total number of our non-residential heat service customers during the year. During the Track Record Period, the monthly heat rate for our non-residential heat service customers ranged from RMB4.8 per sq.m. to RMB10.2 per sq.m.. The monthly heat rates for non-residential heat service users for our Lanzhou New Area Project increased to the range of RMB8.0 per sq.m. to RMB10.2 per sq.m. for the 2022/2023 heat service period from the range of RMB7.0 per sq.m. to RMB9.2 per sq.m. for the 2019/2020, 2020/2021 and 2021/2022 heat service periods. Save for such increase, the heat rates for our non-residential heat service users remained unchanged in each of Shanxi Province, Gansu Province and Inner Mongolia Autonomous Region during the Track Record Period. See "Business - Heat distribution – Pricing – Heat rate for heat service users" in this document for a summary of our heat rate.

(ii) Price subsidies from local government

During the Track Record Period, we recognised revenue from the price subsidies for our Shuozhou Project in the amount of approximately RMB167.9 million, RMB182.5 million and RMB161.7 million, respectively.

Recognition of price subsidies from local government under our Shuozhou Project

The price subsidies from local government under our Shuozhou Project were recognised as our Group's revenue during the Track Record Period in accordance with IFRS 15. The reasons are set out below:

(a) The Shuozhou Concession Agreement is regarded as a contract between our Group and our customer. The Shuozhou Concession Agreement is contractually bound to provide reasonable amount of subsidy and compensation to our Group when a loss is incurred due to insufficient heat rates or pricing standard. According to Appendix A to IFRS 15, a customer is defined as "the party that has contracted with an

entity to obtain goods or services that are an output of the entity's ordinary activities in exchange for consideration" and revenue is defined as "the income arising in the course of an entity's ordinary activities". Paragraph 47 of IFRS 15 further stipulates that "an entity shall consider the terms of the contract and its customary business practices to determine the transaction price. The transaction price is the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer". Given that the local pricing authority has been maintaining the heat rates of Shuocheng District in Shuozhou City at a low level in order to alleviate the impact on the livelihood of the local residents, Shuozhou government compensated our Group for charging such low heat rates by providing us price subsidies as the payment of part of the consideration for the heat services provided to the heat service customers in the course of our Group's ordinary activities. Based on the above, the Shuozhou government, being a contracting party to the Shuozhou Concession Agreement, is considered as a customer in the whole concession arrangement.

(b) The amount of the price subsidies was determined by the specific formula stipulated under the "Minutes of the Shuozhou City Mayor's Office Meeting of the People's Government of Shuozhou (2016) No. 45" (《朔州市人民政府朔州市長辦公會議紀要(2016)第45期》) ("No. 45 of 2016 Minutes"). The specific formula for the calculation of the price subsidies is as follows:

Price subsidies = relevant heat service costs x (1+3%) - monthly heat rate x (actual) heat service area x number of months within the relevant heat service period

The amount of price subsidies was effectively the shortfall of the heat rate charged by our Group below the relevant heat service cost, marked up by a certain percentage and providing the operator a reasonable return. As such, our Directors are of the view that the price subsidies are in substance compensations for part of the shortfall of our Group's revenue due to the low heat rates.

(c) There was reasonable assurance that the price subsidies could be received. The compensations from Shuozhou government were contemplated under the Shuozhou Concession Agreement so long as heat rates are not sufficient to compensate the relevant heat service costs and cannot be adjusted in a timely manner, and were not provided on an incidental manner. Our Group has been granted and receiving such price subsidies since the 2015/2016 heat service period and up to the Track Record Period on a recurring basis without default nor has any

retrospective adjustment of the approved price subsidies ever taken place. Further, based on the interviews with the chief (主任) of the Shuozhou Centre, which is a subordinate public institution of the Shuozhou City Bureau of Municipal Affairs Administration* (朔州市城市管理局) and the vice head (副市長) of the Shuozhou Municipal Government (朔州市 人民政府) on 15 January 2020 and 2 November 2022, respectively, it was confirmed that there will be no change to the subsidising mechanism for the price subsidies pursuant to the No. 45 of 2016 Minutes, and that such subsidising mechanism is expected to remain in force in the foreseeable future as provided under the No. 45 of 2016 Minutes. As advised by our PRC Legal Advisers, the Shuozhou Municipal Government is the competent higher level authority of the Shuozhou City Bureau of Municipal Affairs Administration in Shuozhou city. Given that the interviewees from the Shuozhou Centre of the Shuozhou City Bureau of Municipal Affairs Administration and the Shuozhou Municipal Government were the officers-in-charge of the authorities which is responsible for matters relating to heat provision and urban planning in the respective jurisdictions in Shuozhou city, our PRC Legal Advisers are of the view that they have the authority to provide the confirmation in relevant interviews. As such, our Directors are of the view that there was reasonable assurance that the price subsidies could be received.

Based on the above, our Directors are of the view that price subsidies from the local government are considered as revenue generated from the ordinary activities of our Group and meets the definition of "revenue" under IFRS 15 – Contracts with Customer. The reporting accountant of our Company concurs with the aforementioned view of our Directors.

The nature of price subsidies is different from that of other government grants recognised as our Group's other income, mainly because (i) such price subsidies represent compensation of the shortfall in our revenue resulting from the low heat rates set by the local pricing authority in order to alleviate the burden of the residents of Shuocheng District given the backdrop of favourable laws and governmental policies, (ii) the amount of price subsidies is determined by a specific formula, where the price subsidies are dependent on and directly proportional to the actual heat service area of the heat service users; and (iii) price subsidies are considered to be recurring in nature.

Provision of price subsidies from local government

While our Group was in negotiation of the terms of the Shuozhou Concession Agreement with Shuozhou government, our Directors were given to understand that Shuozhou government was willing to grant monetary compensation and include the relevant clauses which made it contractually obligated to provide such compensation under the Shuozhou Concession Agreement after taking into consideration a combination of factors and reasons below:

- (a) In order to alleviate the impact on the livelihood of the local citizens in Shuocheng District in Shuozhou City, the local pricing authority had been maintaining the heat rates (for both residential and non-residential heat service users) at a low level and such heat rates had not been raised since 2006. Given such low heat rates, the concession operation of heat service business in Shuocheng District would not be commercially desirable if the permissible heat rate was not upward adjusted in a reasonable manner or in the absence of a reasonable amount of subsidy and compensation by Shuozhou government.
- (b) The operation of heat service projects under concession is typically capital intensive in nature and requires significant upfront funding for the construction of pipeline networks and heat service equipment throughout the extremely long concession period (which normally has an initial term of 30 years).
- (c) The provision of subsidies by local governments was permitted under the established legal framework under PRC laws. The provision of subsidies by local governments to heat service providers as a result of low heat rates was contemplated under the Interim Measures. Article 25 of the Interim Measures provides that "the provincial or municipal people's government may temporarily subsidise the heat enterprises (entities) in the areas where heat rates are not sufficient to compensate for the normal relevant heat service costs, and cannot be adjusted in a timely manner".

Having considered the commercial as well as legal reasons above, our Directors believed that the provision of monetary subsidies by Shuozhou government and inclusion of the relevant terms in the Shuozhou Concession Agreement was to increase the attractiveness of the Shuozhou Project to our Group as we considered the provision of subsidies being an incentive for us to operate the concession that was otherwise commercially undesirable, particularly when operation of a heat service concession represented a long term commitment and high level of capital requirement from our Group. Furthermore, we considered that the contractual obligation to provide subsidies from the local government may provide us the downside protection from any disruption to a stable heat service caused by any pricing restrictions, increase in heat costs or any other factors which may adversely affect quality of living of the local heat service users.

Further, we believe that the provision of subsidies was in line with relevant PRC laws and government policies that were issued to encourage private enterprises to enter the field of public utilities operation such as heat services. For example, the Notice of Implementation Opinions on Further Encouraging and Guiding Private Capital to Enter the Field of Municipal Public Utilities (《關於印發進一步鼓勵和引 導民間資本進入市政公用事業領域的實施意見的通知》) provides that incentives and subsidising mechanisms should be implemented by local governments to bring in private enterprises to the public utilities business, and that the PRC government should improve its pricing and subsidy mechanism, formulate reasonable pricing in public utilities business so as to allow operators of public utilities business to be reasonably compensated for costs incurred to obtain reasonable profit.

There were laws and regulations following the implementation of the Interim Measures which continued to be in line with the favourable governmental policies to support heat service providers by providing compensation or subsidy. On a national regulation level, Article 19 of the Measures for the Administration of Concession for Infrastructure and Public Utilities (《基礎設施和公用事業特許經營 管理辦法》) provides that when the charges are insufficient to cover the construction and operating costs of concession projects and the reasonable earnings, the governments may provide viability gap subsidies, including other relevant development and operation rights and interests granted by the governments for concession projects; and Article 21 provides that local government may make commitment under the terms of concession agreements for necessary and reasonable monetary subsidies. The Rules on Centralised Heat Supply for Shuozhou City (Draft) (Draft for Comments) (《朔州市集中供熱條例(草案)》(徵求意見稿)) also provides that the projects shall have rights and obligations of parties clearly defined, establish a coordinated mechanism in terms of investments, subsidies and heat rate.

Pursuant to the terms of the Shuozhou Concession Agreement, our Group is entitled to a reasonable amount of subsidy and compensation from the concession grantor if our Group has incurred losses due to low heat rates. As advised by our PRC Legal Advisers, (i) in the event that we have incurred losses resulting from low heat rates and thus shall enjoy any price subsidies under the Shuozhou Concession Agreement but the Shuozhou government does not pay price subsidies to us in full compliance with the specific formula or the Shuozhou government refuses to pay price subsidies to us at all, the Shuozhou government would breach its obligations under the Shuozhou Concession Agreement and we may have legal recourse or remedies against the Shuozhou government by initiating an administrative proceeding according to the Administrative Procedure Law of the PRC (《行政訴訟 法》) against the Shuozhou government to claim for the Shuozhou government to continue the performance of its obligations, take remedial action, compensate for losses or assume other obligations.

Determination of the amount of price subsidies

Pursuant to the Notice of NDRC and Ministry of Construction on issuing the Interim Measures for the Price Control of Urban Heat Services (國家發展改革委、建設部關於印發《城市供熱價格管理暫行辦法》的通知), local authorities were requested by the NDRC and the then Ministry of Construction to enforce the Interim Measures (which are regulations at the national level as described above) in accordance to the "actual circumstances of the locality". Hence, local governments may implement and govern matters in relation to heat rates and provision of price subsidies in its respective jurisdiction in manners and forms deemed appropriate to the respective local governments for their respective jurisdictions.

As confirmed by Frost & Sullivan, there is no universal formula adopted by all heat service providers in the PRC for the calculation of price subsidiaries or other compensation, as different local governments are faced with different factors, reasons and circumstances and based on these different factors, reasons and circumstances, they would determine their own way of assessing the appropriate level of price subsidies or other compensation for local heat service providers. Generally speaking, local governments would consider the following major factors as a whole when determining how to formulate the support they offer to their heat service providers: (i) local heat rates set by their own local pricing authorities; (ii) cost structures and heat procurement costs of the local heat service providers; (iii) financial conditions of the local governments themselves; and (iv) the affordability of the local residents in different areas. This is in line with circumstances contemplated in, and falls within the ambit of. Article 10 set out in the Interim Measures, which states that "the determination and adjustment of heat rates shall follow the principles of making reasonable compensations for cost, promoting heat conservancy and persisting in the principle of fair burden sharing" (熱價的制定和 調整應當遵循合理補償成本、促進節約用熱、堅持公平負擔的原則). It is not uncommon that heat procurement costs vary from one area to another in the PRC due to the different ex-factory heat rates set by different local governments after taking into account their respective local circumstances. Given such difference in local circumstances, it is not uncommon that heat service providers in different regions, cities or areas in the PRC to incur varying level of heat service costs as confirmed by Frost & Sullivan.

Based on the above, the formula for calculation of the price subsidies stipulated under the No. 45 of 2016 Minutes was derived based on the specific facts and circumstances of Shuocheng District.

The Shuozhou government's heat service year commences on 1 May of a year and ends on 30 April of the following year ("**Shuozhou Government's Heat Service Year**(s)"). For each of the three Shuozhou Government's Heat Service Years ended 30 April 2022, we submitted financial information in relation to our Shuozhou Project as audited by our PRC local auditor, as well as the actual heat service area for our Shuozhou Project to the relevant government authorities to assess, determine and calculate the amount of price subsidies entitled by our Group.

For the purpose of assessing, determining and calculating the amount of price subsidies entitled by our Group under the Shuozhou Project for each of the three Shuozhou Government's Heat Service Years ended 30 April 2022, the Pricing Cost Supervision Conclusion Assessment Reports* (政府定價成本監審結論報告) were issued by the Shuozhou DRC, the competent authority responsible for heat pricing and assessing heat service costs as advised by our PRC Legal Advisers, pursuant to relevant PRC laws and regulations to confirm the total relevant heat service costs. For the purpose of determining the relevant heat service cost used in the calculation of price subsidies, some items of heat service cost submitted to the government authorities may be determined not to be included for calculating the total amount of price subsidies, which generally included (i) costs which were not incurred in the relevant heat service period; (ii) expenses which exceeded the maximum amount capped by the government; (iii) costs related to pipeline connection fees, which were not directly related to the provision and distribution of heat; and (iv) the difference in depreciation expenses of heat service assets arising from the difference in assumptions adopted by us in relation to the useful lives of heat service assets and those adopted by the government. The Assessment Reports on Actual Heat Service Area* (供熱面積核實情況報告/供熱面積核查調研結論報告) were issued by the Assessment and Monitoring Centre of Shanxi Provincial Bureau of Statistics* (山西 省統計局朔州市調查檢測中心) (the "Assessment and Monitoring Centre of Shanxi Provincial Bureau of Statistics"), the competent authorities responsible for monitoring and assessing statistics on economic and social development in the relevant municipal area, and an industry consulting company which was instructed by the Assessment and Monitoring Centre of Shanxi Provincial of Statistics to prepare an assessment report as confirmed by our Directors, to confirm the actual heat service area for residential and non-residential heat users under our Shuozhou Project. Subsequently, based on the total relevant heat service costs and the actual heat service area as confirmed in each of the aforementioned reports, the Shuozhou City Bureau of Municipal Affairs Administration* (朔州市城市管理局), the competent authorities responsible for the operation and safety of municipal public facilities as advised by our PRC Legal Advisers, and Shuozhou DRC jointly issued a confirmation report which set out the finalised amount of price subsidies for each of the three Shuozhou Government's Heat Service Years ended 30 April 2022 and the detailed calculation of such finalised amount of price subsidies pursuant to the specific formula stipulated under the No. 45 of 2016 Minutes.

According to a sensitivity analysis conducted for illustrative purpose, if no price subsidies had been entitled and based on the current monthly heat rate of RMB2.52 per sq.m. and RMB4.8 per sq.m. for our residential and non-residential customers under our Shuozhou Project, respectively, the Shuozhou Project would have incurred a gross loss of heat services of approximately RMB109.1 million, RMB84.4 million and RMB117.6 million for the years ended 31 December 2020, 2021 and 2022, respectively. If the monthly heat rates for residential and non-residential customers were to be adjusted upward to such an extent that we would cease to be entitled to any price subsidies under the Shuozhou Project based

on the No. 45 of 2016 Minutes, such monthly heat rates would reach the breakeven points where the price subsidies from the Shuozhou government entitled by us during the Track Record Period were assumed to be fully factored into the heat rates (i.e. assuming that if the heat rates had been adjusted upwards to such an extent that we were no longer entitled to such price subsidies). Based on our expectation that the monthly heat rates for both residential and non-residential customers would be adjusted by the same degree, to reach the breakeven points, the current monthly heat rates of RMB2.52 per sq.m. and RMB4.80 per sq.m. for residential and non-residential customers, respectively, would increase by approximately 59.1%, 57.4% and 56.5% for each of the 2019/2020, 2020/2021 and 2021/2022 heat service periods. For illustrative purposes only, the following table sets out the breakeven monthly heat rates for residential customers and non-residential customers of Shuozhou Project, with all other factors remaining constant, for each of the 2019/2020, 2020/2021 and 2021/2022 heat service periods under the aforementioned assumption. Based on the sensitivity analysis mentioned above, if the monthly heat rates were increased to the aforementioned breakeven monthly heat rates, the increase in our revenue from fee from customers for provision and distribution of heat would be insufficient to fully offset the decrease in our revenue from price subsidies, primarily because the inputs of parameters adopted by our Group in the calculation of our revenue from fee from customers for provision and distribution of heat in accordance with IFRS 15, were different from those adopted by the local government authorities in the calculation of the price subsidies in accordance with relevant laws and regulations. Hence, under the above scenario, each of our Group's revenue, gross profit and net profit would have decreased by the same amount, which would be approximately RMB11.8 million and RMB21.3 million for the years ended 31 December 2020 and 2021, respectively.

	Heat service period					
Breakeven monthly heat rates	2019/2020	2020/2021	2021/2022			
	RMB per	RMB per	RMB per			
	sq.m.	sq.m.	sq.m.			
Residential	4.01	3.97	3.94			
Non-residential	7.64	7.55	7.51			

Under the Announcement No. 45 of the State Administration of Taxation in 2019, the government subsidies directly linked to income or quantity of its sales of goods, services, intangible assets and real estates were subject to value-added tax with effect from 1 January 2020. Value-added tax in the amount of RMB15.1 million, RMB16.4 million and RMB14.6 million were deducted from the subsidies recognised as part of our revenue for the years ended 31 December 2020, 2021 and 2022, respectively. As such, the deduction of such value-added tax had an offsetting effect on the amount of subsidies recognised as part of our revenue for the years ended 31 December 2020, 2021 and 2022. Revenue from price subsidies in relation to our Shuozhou Project for the year ended 31 December 2021 increased by

approximately 8.7% when compared to that for the year ended 31 December 2020 primarily as a result of the expansion of our Shuozhou Project leading to the increase in revenue from provision and distribution of heat during the same period. Revenue from price subsidies for our Shuozhou Project for the year ended 31 December 2022 decreased by approximately 11.4% when compared to that for the year ended 31 December 2021 because of the decrease in relevant heat service costs used for the calculation of price subsidies. Such decrease in heat service costs was primarily attributable to the deduction of the entire amount of approximately RMB20.0 million (representing a government grant received by Shuozhou Renewable Energy in relation to the capital expenditure for the upgrade of the heat service facilities), instead of the amount representing the depreciation expense in relation to the useful lives of such heat service facilities, from the total heat service costs used for the calculation of price subsidies when the relevant government authorities conducted assessment on such costs.

(iii) Pipeline connection fee

According to the terms of our Concession Agreements and heat service agreements, we may charge pipeline connection fee. The pipeline connection fee is a one-off charge and is charged when our customers first connect their properties to our primary distribution pipelines. During the Track Record Period, our heat service customers in Shanxi Province, Gansu Province and Inner Mongolia Autonomous Region paid pipeline connection fees to us. Revenue from pipeline connection fee in each actual heat service area was recognised on a straight-line basis over the relevant remaining concession period. For the years ended 31 December 2020, 2021 and 2022, revenue from pipeline connection fee was approximately RMB65.4 million, RMB74.2 million and RMB83.7 million, representing approximately 4.8%, 5.7% and 5.8% of our total revenue, respectively. Revenue from our pipeline connection fee increased during the Track Record Period primarily attributed to an increase in the total number of property developers and property owners or occupants who first connect their properties to our primary distribution pipelines.

Engineering construction services

During the Track Record Period, revenue generated from our engineering construction services was mainly related to our concession operation. During the Track Record Period, we provided all of our engineering construction services in the PRC. For details of our engineering construction services projects during the Track Record Period, see "Business – Engineering construction services" in this Document.

Revenue from engineering construction services was recognised over time by measuring the progress towards complete satisfaction of the services. For the years ended 31 December 2020, 2021 and 2022, revenue generated from our engineering construction services was approximately RMB362.1 million, RMB229.1 million and RMB301.6 million, representing approximately 26.3%, 17.8% and 20.9% of our total revenue, respectively. Revenue from our

engineering construction services decreased from 2020 to 2021, primarily attributable to the general expansion of our concession operation in 2021 without any further large-scale construction activities as well as a general decrease in construction activities. For the year ended 31 December 2022, revenue from our engineering construction services increased by approximately 31.6% to approximately RMB301.6 million as compared to approximately RMB229.1 million in 2021. The increase was mainly due to (i) the increase in demand for heat service, resulting in more engineering construction activities to facilitate our provision of heat services and (ii) the construction project of new peak-shaving boiler (which will be a coal-fired boiler) in our heat source peak-shaving station for our Lanzhou New Area Project.

The following table sets out our revenue generated from our engineering construction services by service type for the years indicated.

	For the year ended 31 December					
	2020		2021		2022	
	RMB'000	%	RMB'000	%	RMB'000	%
Engineering construction services for our concession operations	349,356	96.5	208,133	90.8	271,010	89.9
Engineering construction services provided to customers	12,694	3.5	21,014	9.2	30,557	10.1
Total	362,050	100.0	229,147	100.0	301,567	100.0

The following table sets out our revenue generated from our engineering construction services by geographical location for the years indicated.

	For the year ended 31 December					
	2020)	2021	2021		
	RMB'000	%	RMB'000	%	RMB'000	%
Shanxi Province						
– Taiyuan	35,976	9.9	92,020	40.2	98,622	32.7
– Shuozhou	244,650	67.6	38,264	16.7	44,815	14.9
Gansu Province						
– Lanzhou	56,230	15.5	94,649	41.3	139,084	46.1
Inner Mongolia						
Autonomous						
Region						
– Hulunbuir	25,194	7.0	4,214	1.8	10,520	3.5
Henan Province	- , -		,		-)	
– Zhengzhou ^(Note)					8,526	2.8
Total	362,050	100.0	229,147	100.0	301,567	100.0

Note: It mainly represented (i) procurement of pipelines, devices and equipment; and (ii) construction of heat service facilities for heat transmission for the preparation work of the Xinmi Project in two of the areas according to the local urban developments.

				For the y	For the year ended 31 December	ecember			
		2020			2021			2022	
	Su	Subcontracting		Su	Subcontracting		Su	Subcontracting	
	Revenue	costs	Gross profit	Revenue	costs	Gross profit	Revenue	costs	Gross profit
	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
Taiyuan Project	16,474	14,278	2,196	22,976	19,747	3,229	28,726	25,068	3,658
Shanxi Demonstration Zone									
Project	19,502	16,902	2,600	67,695	58,183	9,512	39,338	34,326	5,012
Shuozhou Project	231,956	201,036	30,920	18,599	15,986	2,613	44,815	39,105	5,710
Hulunbuir Project	25,194	21,836	3,358	4,214	3,622	592	10,520	9,179	1,341
Lanzhou New Area Project	56,230	48,735	7,495	94,649	81,347	13,302	139,085	121,366	17,719
Xinmi Project	1	I	I	I	I	I	8,526	7,440	1,086
Total	349,356	302,787	46.569	208.133	178,887	29,248	271.010	236.484	34.526

The following table sets out the revenue and gross profit from construction services for our concession operations, and subcontracting costs

FINANCIAL INFORMATION

The following table sets out the respective balances of prepayments and other payables outstanding in relation to engineering construction services for each project as at 31 December 2022:

	As at 31 December 2022		
	Prepayments	Other payables	
	RMB'000	RMB'000	
Taiyuan Project	1,965	43,311	
Shanxi Demonstration Zone Project	2,476	23,868	
Shuozhou Project	2,446	52,393	
Hulunbuir Project	4,519	8,883	
Lanzhou New Area Project	1,004	119,382	
Xinmi Project	-	28,667	

During the Track Record Period, we also provided engineering construction services (non-IFRIC 12 Service Concession Agreement) which were one-off in nature. Majority of our revenue from these one-off engineering construction services was derived from a reformation project in Shuozhou City. In May 2019, we entered into a cooperation agreement with the Shuozhou City Shuocheng District Housing Urban-Rural Construction Administration Bureau* (朔州市朔城區住房和城鄉建設局) ("Shuocheng District Government"), pursuant to which we were entrusted by the Shuocheng District Government to undertake the engineering construction work on 19 urban villages in Shuocheng District of Shuozhou City (the "Reformation Project"). The Reformation Project was implemented by the Shuocheng District Government to reflect the aim of the "2017 Action Plan for Air Pollution Prevention and Control in Shuozhou City" (《朔城區大氣污染防治2017年行動計劃》) to promote clean energy and control pollution from coal burning. Despite the 19 urban villages were in the Concession Area under the Shuozhou Project, these engineering construction services were for the purpose of upgrading the heat service infrastructure in the urban villages and a separate engineering construction services agreement was entered into with the Shuocheng District Government for such project with terms other than those set out in the Shuozhou Concession Agreement, including but not limited to the terms stating that (i) the legal titles of the constructed assets belong to the Shuocheng District Government and there would be no subsequent transfer arrangement; and (ii) the Shuocheng District Government was solely responsible for the construction costs. Given that the Reformation Project was to improve the livelihoods of people in Shuocheng District of Shuozhou City, and for the purpose of maintaining a good relationship with the Shuocheng District Government, we took up the Reformation Project at cost as agreed with the Shuocheng District Government, resulting in our zero gross profit margin on the Reformation Project during the Track Record Period.

EMC services

During the Track Record Period, our revenue generated from EMC services represented the income for our services to operate and manage the heat service facilities in our customer's power plant to collect the residual heat generated from its operation, and the resulting accounts receivable will be settled subsequently based on the amount calculated by pre-determined revenue sharing ratio and the actual amount of residual heat collected for each heat service period.

For the years ended 31 December 2020, 2021 and 2022, revenue generated from our EMC services amounted to approximately RMB4.2 million, RMB4.0 million and RMB3.0 million, respectively.

Others

During the Track Record Period, revenue generated from other businesses included (i) fees from customers for our provision of heat transmission, (ii) sale of heat service facilities, and (iii) fees from customers for designing services. Our heat transmission services comprised transmission of heat to a number of customers. Our sale of goods comprised sale of heat service equipment, devices and relevant parts to the operators who required these facilities for their business operation. Our designing services mainly comprised indoor heat operation designing and consultancy services to some government authorities and commercial operators.

Cost of sales

During the Track Record Period, our cost of sales mainly included (i) costs for purchase of heat, (ii) construction costs of engineering construction services, (iii) amortisation of intangible assets, and (iv) materials consumed. For the years ended 31 December 2020, 2021 and 2022, such items amounted to approximately RMB938.7 million, RMB847.8 million and RMB986.4 million in aggregate, representing approximately 86.5%, 86.8% and 86.0% of our total cost of sales, respectively. For the same periods, our total cost of sales was approximately RMB1,084.9 million, RMB977.0 million and RMB1,146.9 million, respectively.

	For the year ended 31 December					
	2020		2021		2022	
	RMB'000	%	RMB'000	%	RMB'000	%
Cost for purchase of heat Amortisation of intangible	380,312	35.1	376,447	38.5	400,948	35.0
assets	163,758	15.1	182,382	18.7	194,283	16.9
Impairment of intangible assets Materials consumed	- 79,165	7.3	90,073	- 9.2	9,398 129,401	0.9 11.3

The following table sets out a breakdown of our cost of sales for the years indicated.

	For the year ended 31 December					
	2020		2021		2022	
	RMB'000	%	RMB'000	%	RMB'000	%
Construction costs of engineering construction						
services	315,481	29.1	198,908	20.4	261,767	22.8
Depreciation of right-of-use	,		-, ,,,		,	
assets	172	0.0	172	0.0	_	_
Cost of goods sold	13,294	1.2	1,944	0.2	12,555	1.1
Utility costs	71,538	6.6	73,772	7.6	69,756	6.1
Maintenance expenses	16,091	1.5	12,331	1.3	18,469	1.6
Employee benefit expenses	19,083	1.8	19,515	2.0	21,770	1.9
Depreciation of property,						
plant and equipment	2,254	0.2	2,597	0.3	2,837	0.2
Others	23,783	2.1	18,828	1.8	25,667	2.2
	1,084,931	100.0	976,969	100.0	1,146,851	100.0

During the Track Record Period, costs of purchase of heat represented the direct heat procurement costs incurred for our heat services. The amortisation of intangible assets was recognised on a straight-line basis over the remaining concession periods. Materials consumed mainly consisted of coal that was consumed in coal-fired boilers to generate heat for our Lanzhou New Area Project, as well as other consumables which were used in our ordinary course of business operation. Construction costs were incurred for constructing heat service facilities according to our Concession Agreements.

Construction costs are recognised when we incur actual costs for constructing heat service facilities and generate engineering construction services revenue. For the years ended 31 December 2020, 2021 and 2022, our construction costs amounted to approximately RMB315.5 million, RMB198.9 million and RMB261.8 million, respectively.

The amortisation of intangible assets mainly relates to the amortisation of our operating concessions. Such amortisation is recognised on a straight-line basis over the remaining concession period as direct costs incurred for our provision and distribution of heat services. For the years ended 31 December 2020, 2021 and 2022, our amortisation of intangible assets amounted to approximately RMB163.8 million, RMB182.4 million and RMB194.3 million, respectively.

Materials consumed mainly comprise coal and other chemicals that are consumed in coal-fired boilers for our Lanzhou New Area Project to produce heat for our provision of heat services. For the years ended 31 December 2020, 2021 and 2022, our materials consumed amounted to approximately RMB79.2 million, RMB90.1 million and RMB129.4 million, respectively.

The following table sets out our cost of sales by type of service/product for the years indicated.

	For the year ended 31 December					
	2020		2021		2022	
	RMB'000	%	RMB'000	%	RMB'000	%
Heat services	741,187	68.3	764,700	78.3	859,497	74.9
Engineering construction						
services	315,481	29.1	198,908	20.4	261,767	22.8
EMC services	876	0.1	1,674	0.2	3,309	0.3
Heat transmission services	10,963	1.0	8,280	0.8	2,083	0.2
Sale of goods	13,294	1.2	1,944	0.2	12,555	1.1
Designing services	1,940	0.2	285	-	3,622	0.3
Others	1,189	0.1	1,178	0.1	4,018	0.4
Total	1,084,931	100.0	976,969	100.0	1,146,851	100.0

Sensitivity analysis

Any unfavourable changes to heat rates, heat procurement price, material procurement prices and construction costs may adversely affect our revenue, cash flows and results of operations. For illustrative purposes, the table below sets out a sensitivity analysis of the effect of fluctuations in heat rates, heat procurement prices, material procurement prices and construction costs on our profit before tax during the Track Record Period. Fluctuations are assumed to be 5% and 10%, respectively. Prospective investors should note that this sensitivity analysis is based on assumptions and is for reference only. As such, it should not be viewed as actual effect.

	Impact on our profit before tax					
	For the y	ear ended 31 D	ecember			
	2020	2021	2022			
	RMB'000	RMB'000	RMB'000			
Average heat rate						
+/- 5%	36,547	38,922	42,677			
+/- 10%	73,094	77,844	85,354			
Average heat procurement price						
+/- 5%	19,016	18,822	20,047			
+/- 10%	38,031	37,645	40,095			
	Impact on our profit before tax					
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	For the y	ear ended 31 D	ecember			
	2020	2021	2020 2021	2022		
	RMB'000	RMB'000	RMB'000			
Average material procurement price						
+/- 5%	3,983	4,521	6,470			
+/- 10%	7,966	9,421	12,940			
Average construction costs						
+/- 5%	15,774	9,945	13,088			
+/- 10%	31,548	19,891	26,177			

Heat services

Costs of sales for our provision of heat services primary consists of (i) purchase of heat; (ii) amortisation of intangible assets; (iii) materials consumed (including coal and other consumables); and (iv) utility costs. For the years ended 31 December 2020, 2021 and 2022, costs of sales for our provision of heat services were approximately RMB741.2 million, RMB764.7 million and RMB859.5 million, respectively.

Engineering construction services

Costs of sales for our provision of engineering construction services represents construction costs, including direct material costs and contracting costs, for the construction of heat service facilities. For the years ended 31 December 2020, 2021 and 2022, costs of sales for our provision of engineering construction services were approximately RMB315.5 million, RMB198.9 million and RMB261.8 million, respectively.

EMC services

Costs of sales for our provision of EMC services primarily consists of (i) employee benefit expenses, and (ii) utility and other operation costs. For the years ended 31 December 2020, 2021 and 2022, costs of sales for our provision of EMC services were approximately RMB0.9 million, RMB1.7 million and RMB3.3 million, respectively.

Heat transmission services

Costs of sales for our heat transmission services mainly include the relevant direct costs for the purchase of heat. For the year ended 31 December 2020, 2021 and 2022, costs of sales for our heat transmission services were approximately RMB11.0 million, RMB8.3 million and RMB2.1 million, respectively.

Gross profit and gross profit margin

For the years ended 31 December 2020, 2021 and 2022, our gross profit amounted to approximately RMB291.4 million, RMB313.7 million and RMB296.9 million, respectively. For the same periods, our gross profit margin was approximately 21.2%, 24.3% and 20.6%, respectively.

The following table sets out our gross profit and gross profit margin by type of service/product for the years indicated.

	For the year ended 31 December						
	2020		2021	l	2022		
	Gross profit	Gross profit margin	Gross profit	Gross profit margin	Gross profit	Gross profit margin	
	RMB'000	%	RMB'000	%	RMB'000	%	
Heat services Engineering	232,090	23.8	270,453	26.1	239,446	21.8	
construction services	46,569	12.9	30,239	13.2	39,800	13.2	
EMC services	3,281	78.9	2,298	57.9	(307)	(10.2)	
Heat transmission							
services	5,998	35.4	6,253	43.0	3,438	62.3	
Sale of goods	3,050	18.7	3,812	66.2	11,026	46.8	
Designing services	(282)	(17.0)	233	45.0	2,964	45.0	
Others	684	36.5	378	24.3	514	11.4	
Total	291,390	21.2	313,666	24.3	296,881	20.6	

Gross profit of heat services (including fees from customers for provision and distribution of heat, price subsidies from local government and pipeline connection fee)

For the years ended 31 December 2020, 2021 and 2022, gross profit for our heat services was approximately RMB232.1 million, RMB270.5 million and RMB239.4 million, respectively. For the same periods, the gross profit margin of our heat services was approximately 23.8%, 26.1% and 21.8%, respectively.

The following table sets out the gross profit/(loss) margin of our heat services by heat service project under operation for the years indicated.

	For the years ended 31 December			
	2020	2021	2022	
	%	%	%	
Shanxi Province				
Taiyuan Project	39.3	44.1	45.1	
Shanxi Demonstration Zone Project	(60.3)	(55.7)	(13.4)	
Shuozhou Project	13.2	20.5	9.0	
Gansu Province				
Lanzhou New Area Project	26.9	9.4	9.8	
Inner Mongolia Autonomous Region				
Hulunbuir Project	38.1	43.3	43.8	

Gross profit margin of Taiyuan Project

For the years ended 31 December 2020, 2021 and 2022, the gross profit margin for the Taiyuan Project was approximately 39.3%, 44.1%, and 45.1%, respectively. The increases in gross profit margin for this project during the Track Record Period were due to the expansion of our heat service area for the project, while our cost of sales did not increase to the same extent due to the implementation of cost-saving strategies such as conducting daily operational analysis and weather variation studies to improve the precision of heat control in the heat exchange stations used by us.

Gross loss margin of Shanxi Demonstration Zone Project

For the years ended 31 December 2020, 2021 and 2022, the gross loss margin for the Shanxi Demonstration Zone Project was approximately 60.3%, 55.7% and 13.4%, respectively. Our gross loss margin for this project for the years ended 31 December 2020, 2021 and 2022 was mainly due to a relatively high level of depreciation compared to our revenue. During the initial phase of this project, the initial construction of heat service facilities, particularly the pipeline and facilities for extraction of geothermal heat as heat source for this project, led to a relatively high level of depreciation, while its operation scale was relatively small at this stage. Our gross loss margin gradually decreased during the Track Record Period as a result of the continuing expansion of actual heat service area, leading to a higher revenue generated from provision of heat services, while the aforementioned depreciation expense remained stable during the Track Record Period.

Gross profit margin of Shuozhou Project

For the years ended 31 December 2020, 2021 and 2022, the gross profit margin for the Shuozhou Project was approximately 13.2%, 20.5% and 9.0%, respectively.

As disclosed in the paragraph headed "Financial Information – Description of major components of our results of operations – Revenue – Heat services – (ii) Price subsidies from local government", the local government authorities calculated the price subsidies by applying a 3% mark-up margin on the relevant heat service costs and deduct the revenue based on the financial information submitted by us as adopted in a specific formula ("the **Government Formula**").

The gross profit margin of the Shuozhou Project (the "**Shuozhou GP Margin**") is higher than the 3% mark-up margin because (i) the formulae for the two ratios were different where the Shuozhou GP Margin is calculated by dividing the gross profit by revenue, while the 3% mark-up margin is calculated by dividing the gross profit by relevant heat service costs; and (ii) the inputs of the parameters for the two ratios were different. The following table sets out the details of the major differences in the inputs of the parameters for the two ratios.

Inputs of the parameters	Shuozhou GP Margin	Government Formula
(1) Revenue		
Fee from customers for provision and distribution of heat	Exclusive of VAT	Inclusive of VAT
Pipeline connection fee	Included	Excluded
(2) Heat service cost		
Heat procurement $cost^{(1)}$	From our Group's perspective	from Shuozhou Renewable Energy perspective
Administrative expenses and finance expenses	Excluded	Included
Cost assessment ⁽²⁾	Not applicable	Some items of heat service cost submitted to the government authorities may be determined not to be included for calculating the total amount of price subsidies

Notes:

- 1. During the Track Record Period, part of the heat consumed by Shuozhou Renewable Energy for provision and distribution of heat was procured from Taiyuan Renewable Energy which in turn procured such heat from Shanxi Datang and Shanxi Shentou, both of which are Independent Third Parties. See "Business Heat procured from cogeneration plants" for details. The cost in relation to Taiyuan Renewable Energy's procurement of heat from Shanxi Datang and Shanxi Shentou represents the cost of heat procurement incurred by our Group, and was adopted in the calculation of Shuozhou GP Margin to reflect the profitability of our Shuozhou Project from our Group's prospective.
- 2. See "Revenue (ii) Price subsidies from local government Determination of the amount of price subsidies" in this section for details of the cost assessment conducted by the government authorities.

The gross profit margin for the Shuozhou Project increased for the year ended 31 December 2021. Such increase was mainly due to an increase in price subsidies which was in line with the expansion of the actual heat service area of this project, as well as a decrease in costs as we began sourcing heat from a new cogeneration plant with a shorter heat transmission distance. The gross profit margin for this project decreased for the year ended 31 December 2022, mainly due to the decrease in the price subsidies from a local government. According to a sensitivity analysis conducted for illustrative purpose, if price subsidies had not been recognised as revenue, the Shuozhou Project would have incurred a gross loss margin of 39.2%, 28.6% and 38.6% for the years ended 31 December 2020, 2021 and 2022, respectively.

Gross profit margin of Lanzhou New Area Project

For the years ended 31 December 2020, 2021 and 2022, the gross profit margin for the Lanzhou New Area Project was approximately 26.9%, 9.4% and 9.8%, respectively. The gross profit margin for the Lanzhou New Area Project decreased for the year ended 31 December 2021. Such decrease was mainly due to an increase in costs resulting from a substantial increase in coal prices. The gross profit margin for this project remained stable at 9.8% for the year ended 31 December 2022.

Gross profit margin of Hulunbuir Project

The gross profit margin for the Hulunbuir Project remained stable during the Track Record Period, and was 38.1%, 43.3% and 43.8% for the years ended 31 December 2020, 2021 and 2022, respectively.

The gross profit margins for our heat service projects are largely affected by (i) the monthly heat rates for our heat services, which are set by the relevant pricing authorities and generally do not fluctuate in accordance with market dynamics; and (ii) the type of heat source used for the heat project, which affects our cost of heat. During the Track Record Period, we procured heat from cogeneration plants in the PRC for our Taiyuan Project, Hulunbuir Project and Shuozhou Project. The procurement prices of heat from such cogeneration plants are set by the relevant pricing authorities. The gross profit margins for our Taiyuan Project and our Hulunbuir Project were higher than the gross profit margins for our other heat projects, mainly because it is generally cheaper to purchase heat from cogeneration plants as compared to

self-generating heat. On the other hand, the gross profit margin for our Shuozhou Project was lower during the Track Record Period as the purchase price of heat was slightly higher than that for the Taiyuan Project and the Hulunbuir Project. During the Track Record Period, heat for our Lanzhou New Area Project was produced through coal-fired boilers. As a result, the gross profit margin for our Lanzhou New Area Project was impacted by the relatively high prices for the procurement of coal, which led to a lower gross profit margin for this project during the period. During the Track Record Period, the gross profit margin for our Shanxi Demonstration Zone Project was the lowest of our heat service projects, mainly due to a relatively high level of depreciation compared to our revenue in relation to the construction of heat service facilities for the project in 2019.

Gross profit of engineering construction services

For the years ended 31 December 2020, 2021 and 2022, gross profit for our engineering construction services was approximately RMB46.6 million, RMB30.2 million and RMB 39.8 million, respectively. For the same periods, the gross profit margin for our engineering construction services was approximately 12.9%, 13.2% and 13.2%, respectively.

Gross profit/(loss) of EMC services

For the years ended 31 December 2020 and 2021, gross profit for our EMC services was approximately RMB3.3 million and RMB2.3 million, respectively. For the years ended 31 December 2022, the gross loss for our EMC services was approximately RMB0.3 million. For the same periods, the gross profit margin of our EMC services was approximately 78.9% and 57.9%, respectively, and the gross loss margin was approximately 10.2% for the year ended 31 December 2022.

The gross profit decreased from RMB3.3 million for the year ended 31 December 2020 to RMB2.3 million for the year ended 31 December 2021 which was mainly resulting from an increase in staff costs and maintenance expenses incurred during the year.

The gross profit decreased by approximately RMB2.6 million or 113.4% from a gross profit of approximately RMB2.3 million for the year ended 31 December 2021 to a gross loss of approximately RMB0.3 million for the year ended 31 December 2022. The gross profit margin amounted to approximately 57.9% for the years ended 31 December 2021 and the gross loss margin amounted to approximately 10.2% for the year ended 31 December 2022, respectively. The change from gross profit to gross loss of our Group was mainly resulted from our execution of the Supplemental EMC, resulting in lower revenue generated from the EMC services while the cost of sales for EMC services increased from RMB1.7 million for the year ended 31 December 2022, mainly due to the increase in coal price and staff costs.

Administrative expenses

Administrative expenses mainly consist of (i) employee benefit expenses; (ii) depreciation of property, plant and equipment; (iii) research and development expenses; (iv) travelling expenses; and (v) business entertainment expenses. For the years ended 31 December 2020, 2021 and 2022, our administrative expenses were approximately RMB125.0 million, RMB141.3 million and RMB139.6 million, respectively. The following table sets out a breakdown of our administrative expenses for the years indicated.

	For the year ended 31 December					
	2020		2021		2022	
	RMB'000	%	RMB'000	%	RMB'000	%
Employee benefit expenses	54,329	43.5	63,969	45.3	62,632	44.8
Depreciation of property,						
plant and equipment	9,106	7.3	10,167	7.2	12,393	8.9
Amortisation of intangible						
assets	2,292	1.8	1,900	1.3	650	0.5
Research and development						
expenses	4,675	3.7	7,739	5.5	8,166	5.9
Depreciation of right-of-use						
assets	2,940	2.4	4,607	3.3	4,615	3.3
Legal and professional fees	4,334	3.5	5,617	4.0	2,722	2.0
Office expenses	1,469	1.2	1,188	0.8	1,085	0.8
Auditor remuneration	891	0.7	1,320	0.9	858	0.6
Travelling expenses	7,815	6.3	6,606	4.7	5,780	4.1
Business entertainment						
expenses	10,929	8.7	12,440	8.8	10,625	7.6
Technical service expenses	2,629	2.1	2,677	1.9	2,673	1.9
Utility expenses	818	0.7	1,146	0.8	1,386	1.0
Property management and						
rental expenses	2,375	1.9	2,684	1.9	2,607	1.9
Tax and other surcharges	4,372	3.5	4,203	3.0	4,189	3.0
[REDACTED] expenses	_	_	299	0.2	3,597	2.6
Others	15,976	12.7	14,745	10.4	15,611	11.1
Total	124,950	100.0	141,307	100.0	139,589	100.0
	12.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	100.0	1.1,007	100.0	107,007	100.0

Employee benefit expenses were the largest portion of our administrative expenses during the Track Record Period, which included basic salary, bonus and pension.

Depreciation of property, plant and equipment represented mainly the depreciation of the building premises used for our operations and was relatively stable during the Track Record Period.

Research and development expenses mainly represented our costs incurred for the purpose of the innovation and development of our portfolio of heat sources.

Reversal/(provision) of impairment losses on financial assets and contract assets

During the Track Record Period, we recorded reversals or provisions of impairment losses in respect of our trade, lease and other receivables and contract assets, For the years ended 31 December 2020, 2021 and 2022, we recorded a provision of impairment losses of approximately RMB13.5 million, a reversal of impairment losses of approximately RMB1.0 million and a reversal of impairment loss of approximately RMB23.1 million, respectively.

Other income

During the Track Record Period, other income consisted of (i) government grants; and (ii) rental income. For the years ended 31 December 2020, 2021 and 2022, our other income was approximately RMB48.4 million, RMB73.6 million and RMB53.7 million, respectively. The following table sets out a breakdown of our other income for the years indicated.

	For the y	For the year ended 31 December			
	2020	2021	2022		
	RMB'000	RMB'000	RMB'000		
Government grants	32,518	58,722	37,472		
Rental income	15,866	14,862	16,270		
	48,384	73,584	53,742		

For the years ended 31 December 2020, 2021 and 2022, we recorded government grant related income of approximately RMB32.5 million, RMB58.7 million and RMB37.5 million, respectively, primarily attributable to government grants in respect of our heat service operation, subsidising our purchase/construction of heat service facilities or subsidising for losses of our heat service projects. Government grants are not recurring in nature, there are no specific formulae for the determination of the government grants, they were determined by the local government on an incidental basis, and they are not directly related to heat rates. The types of government grants may differ each year and the income are recognised when they are received. We recognised government grants of approximately RMB10.0 million, RMB24.4 million and nil for the years ended 31 December 2020, 2021 and 2022, respectively, to make up for the aggregate losses of our Lanzhou New Area Project since 2013 and up to the end of 2018. We recognised government grants of approximately nil, RMB8.0 million and RMB10.0 million for the years ended 31 December 2020, 2021 and 2022, respectively, mainly for the

agreed shortfall by the local government for the heat service year from 1 April 2019 to 31 March 2020 of our Shanxi Demonstration Zone Project. Such grants represented the agreed loss and shortfall in the governments' discretion, taking into consideration, among others, excessive loss at the early stage of operation and prior to achieve economies of scales; and motivating the implementation of clean and renewable energy sources. We recognised government grants of approximately RMB0.9 million, RMB3.5 million and RMB3.0 million for the years ended 31 December 2020, 2021 and 2022, respectively, for our Shuozhou Project, of which approximately RMB0.9 million, RMB1.0 million and RMB2.9 million was used to subsidise our purchase/construction for the heat service facilities. Our rental income was mainly arisen from the lease with tenants in our investment properties – Shantou Complex and industrial complex.

Other losses – net

During the Track Record Period, our net other losses primarily consisted of (i) fair value losses of investment properties; (ii) gains on investments in wealth management products; (iii) gains/(losses) on disposal of property, plant and equipment; (iv) gains on disposal of intangible assets; and (v) gains on disposal of right-of-use assets. The following table sets out a breakdown of our other gains/(losses) – net for the years indicated.

	For the year ended 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
Fair value losses of investment				
properties	(6,300)	(2,000)	(5,300)	
Gains on disposal and deregistration of				
subsidiaries	72	4	39	
Gains on investments in wealth				
management products, net	1,207	418	146	
Gains/(losses) on disposal of property,				
plant and equipment, net	3,443	(119)	242	
Gains on disposal of intangible assets	_	462	1,086	
Others	1,421	1,216	184	
	(157)	(19)	(3,603)	

Our fair value losses of investment properties were mainly due to a change in the market value of our investment properties (namely Shantou Complex and certain levels of industrial complex), based on a valuation conducted by an independent valuer for the years ended 31 December 2020, 2021 and 2022, respectively. Our gains on investments in wealth management products (being the short-term investment products or structured bank deposits) referred to fair value gains based on their expected return rates.

Finance income

During the Track Record Period, our finance income mainly consisted of (i) interest income from financing arrangements; (ii) interest income from a loan to a related party; (iii) interest income derived from bank deposits; (iv) interest income from a finance lease to a related party; and (v) interest income from lease receivables. For the years ended 31 December 2020, 2021 and 2022, our finance income was approximately RMB26.4 million, RMB29.4 million and RMB26.3 million, respectively.

The following table sets out a breakdown of our finance income for the years indicated.

	For the year ended 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
Finance income				
Interest income derived from bank				
deposits	2,519	1,822	2,696	
Interest income from financing arrangements ⁽¹⁾	17,462	13,659	10,877	
Interest income from finance lease to a				
related party ⁽²⁾	1,320	1,468	1,334	
Interest income from lease				
receivables ⁽³⁾	692	4,813	10,983	
Interest income from loans to a related				
party ⁽⁴⁾	4,400	7,592	424	
	26,393	29,354	26,314	

Notes:

- (1) For details related to the relevant financing arrangements, see "Discussion of certain items of consolidated statements of financial position - Current assets and liabilities - Prepayments and other receivables" in this section.
- (2) On 1 March 2020, we entered into a finance lease with Sinopec New Star, an associate of our Company. The finance lease has a fixed term of 10 years.
- (3) The lease receivables were recognised in relation to the EMC arrangement for which we leased certain equipment and machinery for a power plant in 2017. See "Business Provision of EMC services" in this document for details.
- (4) On 8 July 2020, we entered into a loan financing arrangement with Beijing Zhongchuang, a related party of our Company. Such loan financing arrangement has a fixed term of three years.

Finance costs

During the Track Record Period, our finance costs mainly consisted of (i) interest expenses on borrowings; (ii) interest expenses on lease liabilities; (iii) interest paid on installment payment of acquisition of intangible assets; (iv) interest expenses on installment payment of purchase of equipment; and (v) interest expenses on loans from government. For the years ended 31 December 2020, 2021 and 2022, our finance costs was approximately RMB92.9 million, RMB81.5 million and RMB84.1 million, respectively.

The following table sets out a breakdown of our finance costs for the years indicated.

	For the year ended 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
Interest expenses on borrowings	(85,659)	(72,686)	(62,858)	
Interest expenses on lease liabilities	(1,218)	(1,465)	(1,386)	
Interest expenses on installment payable				
for acquisition of intangible assets	(2,338)	(5,087)	(3,090)	
Interest expenses on installment payable				
for purchase of equipment	(1,657)	_	_	
Interest expenses on loans from				
government	(1,342)	(1,343)	(931)	
Unwinding of provision ^(Note)	(652)	(922)	(1,156)	
Loss from modification of lease				
receivables			(14,644)	
	(92,866)	(81,503)	(84,065)	

Note:

Unwinding of provision mainly refers to periodic amortisation of discounting effect on the non-current provision being made in relation to our service concession.

Our net finance costs decreased from approximately RMB66.5 million for the year ended 31 December 2020 to approximately RMB52.1 million for the year ended 31 December 2021, mainly due to a decrease in our bank and other borrowings resulting from our repayments during the same period. Our net finance costs increased from approximately RMB52.1 million for the year ended 31 December 2021 to approximately RMB57.8 million for the year ended 31 December 2022, mainly due to a loss from modification of lease receivables resulting from the modification of EMC and a decrease in interest income from a loan to Beijing Zhongchuang as such loan was fully repaid in 2022. For the year ended 31 December 2022, our loss from modification of lease receivables was resulted from the modification of EMC. In February 2022, we signed an addendum to a supplemental agreement containing payment schedule with our EMC customer, to modify the payment schedule. The modification of EMC, including but

not limited to a decrease in the percentage of sharing revenue and the extension of payment schedule, resulted in a decrease in the carrying amount of the lease receivables from such EMC, being the difference between the present value of the original contractual cash flows and the present value of the modified contractual cash flows for the remaining period. Such decrease, amounting to approximately RMB14.6 million, was recognised as our loss from modification of lease receivables for the year ended 31 December 2022.

Share of profit of associates accounted for using the equity method

Share of profit of associates accounted for using the equity method is derived from our Group's equity interests in our associates, namely Sinopec New Star and Shaanxi Gas Group New Energy Development. Sinopec New Star is principally engaged in the development, construction and operation of heating, cooling and power generation projects, exploration and utilisation of renewable energy, and provision of heat services. Shaanxi Gas Group New Energy Development is principally engaged in the sale of natural gas and related businesses. For the years ended 31 December 2020, 2021 and 2022, our share of net profit of associates accounted for using the equity method was approximately RMB9.3 million, RMB12.0 million and RMB13.5 million, respectively.

Income tax expenses

For the years ended 31 December 2020, 2021 and 2022, our income tax expenses were approximately RMB45.6 million, RMB35.7 million and RMB46.0 million, respectively. During the Track Record Period, all of our profits were derived from our business in the PRC and our profits generated from our operations were principally subject to the PRC corporate income tax. The reconciliation of the tax expense applicable to profit before tax at the statutory rates for the jurisdictions in which our Company and majorities of subsidiaries are domiciled to the tax expense at the effective tax rate is disclosed in Note 11 to the accountant's report as set out in Appendix I to this document.

The table below sets out our income tax expenses for the years indicated.

	For the year ended 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
Current income tax:				
- PRC corporate income tax	47,095	53,858	60,337	
Deferred income tax	(1,484)	(18,187)	(14,376)	
	46,074	35,671	45,961	

For the years ended 31 December 2020, 2021 and 2022, our effective tax rate was approximately 31.7%, 17.3% and 24.7%, respectively. Our effective tax rate decreased from 31.7% in 2020 to 17.3% in 2021. Such decrease was mainly attributable to the decrease in profit before tax in 2020 and an increase in tax losses not recognised for deferred income tax assets, which was mainly due to increase in the losses from Shuozhou Renewable Energy in 2020. Our effective tax rate increased from approximately 17.3% for the year ended 31 December 2021 to approximately 24.7% for the year ended 31 December 2022.

During the Track Record Period, some of our subsidiaries were entitled to preferential tax treatments as well as other incentives pursuant to the relevant tax laws and regulations.

Taiyuan Renewable Energy was approved as a high and new technology enterprise in 2018 and was subject to a preferential CIT rate of 15% from 2018 to 2020 according to the relevant CIT laws. In December 2021, Taiyuan Renewable Energy was approved to the renewal of high and new technology enterprise for three years from 2021 to 2023, and a preferential CIT rate of 15% has been applied for 2021. In September 2019, Shanxi Shuangliang New Energy was qualified as a high and new technology enterprise and entitled to enjoy a preferential CIT rate of 15% from 2019 to 2021 and was approved for the renewal as a high and new technology enterprise in 2022. In December 2020, Shanxi Demonstration Zone Heat Supply was qualified as a high and new technology enterprise and entitled to enjoy a preferential CIT rate of 15% from 2020 to 2022.

During the Track Record Period, Lanzhou Shuangliang and Hulunbuir Shuangliang were subject to a preferential PRC corporate income tax rate of 15% according to the relevant PRC corporate income tax laws and regulations since they are qualified as High and New Technology Enterprises (高新技術企業) and are enterprises established and operated in the western region of the PRC with the latest approvals given in October 2022 and December 2022, respectively, where they were subject to such preferential CIT rate of 15% from 2022 to 2024. In addition, according to the relevant tax circulars issued by the PRC tax authorities, Gansu Smart Energy was entitled to other tax concessions and was exempted from taxation for three consecutive years since 2017, followed by a 50% reduction of the applicable tax rates for another three consecutive years. Gansu Smart Energy was exempted from taxation from 2017 to 2019 and was entitled to a preferential PRC corporate income tax rate of 12.5% from 2020 to 2022.

Since the commencement of the Track Record Period and up to the Latest Practicable Date, we had fulfilled all our income tax obligations and have not had any unresolved tax issues or disputes with the relevant tax authorities.

Profit for the year

As a result of the foregoing, for the years ended 31 December 2020, 2021 and 2022, our net profit was approximately RMB98.3 million, RMB171.1 million and RMB140.4 million, respectively. For the same periods, our net profit margin was approximately 7.1%, 13.3% and 9.7%, respectively.

YEAR-TO-YEAR COMPARISON OF RESULTS OF OPERATIONS

Year ended 31 December 2022 compared to year ended 31 December 2021

Revenue

Our consolidated revenue increased by approximately RMB153.1 million, or 11.9%, from approximately RMB1,290.6 million for the year ended 31 December 2021 to RMB1,443.7 million for the year ended 31 December 2022, primarily due to a combined effect of an increase in the revenue generated from our engineering construction services of approximately RMB72.4 million, or 31.6%, as well as the increase in the revenue generated from our heat services of approximately RMB63.8 million, or 6.2% during the same period. Such increase was mainly attributable to (i) a general increase of constructions activities for our concession projects; and (ii) an increase in the actual heat service area brought by the expansion of our concession projects in general during the year.

The change in revenue over 2022 by major service/product type is analysed as follows:

- (i) The revenue from the provision and distribution of heat (which included fees from customers for distribution and provision of heat and price subsidies from a local government) increased by approximately RMB54.3 million or 5.6% from RMB960.9 million for the year ended 31 December 2021 to RMB1,015.2 million for the year ended 31 December 2022, which was mainly related to an increase in the actual heat service area brought by the expansion of our concession projects in general during the same year.
- (ii) The revenue from pipeline connection fee increased by approximately RMB9.5 million or 12.8%, from RMB74.2 million for the year ended 31 December 2021 to RMB83.7 million for the year ended 31 December 2022, which was mainly related to the increase in the actual heat service area.
- (iii) The revenue from our engineering construction services increased by approximately RMB72.4 million or 31.6% from RMB229.1 million for the year ended 31 December 2021 to RMB301.6 million for the year ended 31 December 2022, which was mainly due to (i) the increase in our actual heat service area, resulting in more engineering construction activities to facilitate our provision of heat services and (ii) a new construction project provided to a customer in Shanxi during the same year.
- (iv) The revenue from our EMC services decreased by approximately RMB1.0 million or 25.0% from RMB4.0 million for the year ended 31 December 2021 to RMB3.0 million for the year ended 31 December 2022, which was mainly due to our execution of the Supplemental EMC, resulting in lower revenue generated from the Original EMC during the year.

- (v) The revenue from our heat transmission services decreased by approximately RMB9.0 million or 62.1% from RMB14.5 million for the year ended 31 December 2021 to RMB5.5 million for the year ended 31 December 2022 because one of our major heat transmission customers, being a heat supply company in the PRC, did not require heat transmission services from us during the year as it started to utilise an alternative heat source.
- (vi) The revenue from sale of goods increased by approximately RMB17.8 million or 309.7% from RMB5.8 million for the year ended 31 December 2021 to RMB23.6 million for the year ended 31 December 2022, which was mainly due to an increase in demand for heat service devices and equipment during the year.

Cost of sales

Cost of sales increased by approximately RMB169.9 million or 17.4% from approximately RMB977.0 million for the year ended 31 December 2021 to approximately RMB1,146.9 million for the year ended 31 December 2022, which was in line with the increase in our revenue from the provision of our heat services and engineering construction services during the year.

Gross profit and gross profit margin

As a result of the foregoing, our gross profit decreased by approximately RMB16.8 million or 5.4% from approximately RMB313.7 million for the year ended 31 December 2021 to approximately RMB296.9 million for the year ended 31 December 2022. Our gross profit margin decreased from approximately 24.3% for the year ended 31 December 2021 to approximately 20.6% for the year ended 31 December 2022, primarily attributable to the decrease in gross profit of our heat services due to the decrease in price subsidies for our Shuozhou Project.

The gross profit and gross profit margin by major type of service/product are analysed as follows:

(i) Heat services (including fees from customers for the provision and distribution of heat, price subsidies from local government and pipeline connection fee)

The gross profit decreased by approximately RMB31.1 million or 11.5% from approximately RMB270.5 million for the year ended 31 December 2021 to approximately RMB239.4 million for the year ended 31 December 2022. The gross profit margin amounted to approximately 26.1% and 21.8% for the year ended 31 December 2021 and for the year ended 31 December 2022, respectively. The decrease in gross profit and grossprofit margin was mainly attributed to (i) the decrease in price subsidies revenue for the Shuozhou Project for the year ended 31 December 2022 and (ii) an increase in costs resulting from a substantial increase in coal price, resulting in an increase in procurement prices for our Lanzhou New Area Project during the same year. For further details of the

gross profit margin of our heat services by heat service project during the Track Record Period, see "Gross profit of heat services (including fees from customers for provision and distribution of heat, price subsidies from local government and pipeline connection fee)" in this section.

(ii) Engineering construction services

The gross profit increased by approximately RMB9.6 million or 31.6% from approximately RMB30.2 million for the year ended 31 December 2021 to approximately RMB39.8 million for the year ended 31 December 2022 because the increase in construction activities for our concession projects, mainly attributable to expansions in Taiyuan Project and Lanzhou New Area Project. The gross profit margin amounted to approximately 13.2% and 13.2% for the years ended 31 December 2021 and 2022, respectively. The gross profit margin remained stable for the year ended 31 December 2022.

(iii) EMC services

The gross profit decreased by approximately RMB2.6 million or 113.4% from a gross profit of approximately RMB2.3 million for the year ended 31 December 2021 to a gross loss of approximately RMB0.3 million for the year ended 31 December 2022. The gross profit margin amounted to approximately 57.9% for the years ended 31 December 2021 and the gross loss margin amounted to approximately 10.2% for the year ended 31 December 2022, respectively. The decrease in gross profit and gross profit margin mainly resulted from our execution of the Supplemental EMC, resulting in lower revenue generated from the Original EMC during the year ended 31 December 2022 as compared to in 2021.

(iv) Heat transmission services

The gross profit decreased by approximately RMB2.8 million or 45.0% from approximately RMB6.3 million for the year ended 31 December 2021 to approximately RMB3.4 million for the year ended 31 December 2022 because the reduced amount of heat transmitted as one of our major customers for our heat transmission services did not procure heat from us during the year. The gross profit margin amounted to approximately 43.0% and 62.3% for the year ended 31 December 2021 and for the year ended 31 December 2022, respectively. The increase in gross profit margin mainly resulted from higher fees charged by us for our heat transmission service to a new customer for our heat transmission services during 2022 as compared to 2021.

(v) Sale of goods

The gross profit increased by approximately RMB7.2 million or 189.2% from approximately RMB3.8 million for the year ended 31 December 2021 to approximately RMB11.0 million for the year ended 31 December 2022 because of the increase in sale of heat service devices and equipment during the year. The gross profit margin amounted to approximately 66.2% and 46.8% for the year ended 31 December 2021 and for the year ended 31 December 2022, respectively. The decrease in gross profit margin was mainly attributed to the increase in sales of lower margin heat service devices and equipments which offset the effect of increase in revenue in the total sale of heat service device and equipment during the year.

Administrative expenses

Administrative expenses remained relatively stable at approximately RMB139.6 million for the year ended 31 December 2022 as compared to RMB141.3 million for the year ended 31 December 2021.

Reversal of impairment losses on financial assets and contract assets

The reversal of impairment losses on financial assets and contract assets increased by approximately RMB22.1 million or 2,223.4% from approximately RMB1.0 million for the year ended 31 December 2021 to approximately RMB23.1 million for the year ended 31 December 2022, primarily resulting from a decrease in expected credit loss rate related to our EMC customer during the year.

Other income

Other income decreased by approximately RMB19.8 million or 27.0% from approximately RMB73.6 million for the year ended 31 December 2021 to approximately RMB53.7 million for the year ended 31 December 2022, primarily attributable to the reduction of government grants provided by the relevant local government for our Lanzhou New Area Project.

Other losses – net

Net other losses increased from approximately RMB0.02 million for the year ended 31 December 2021 to net other losses of approximately RMB3.6 million for the year ended 31 December 2022. This increase was primarily attributable to a significant decrease in market rental of our investment properties during the year, resulting in a fair value losses of such investment properties.

Finance income

Finance income decreased by approximately RMB3.0 million or 10.4% from approximately RMB29.4 million for the year ended 31 December 2021 to approximately RMB26.3 million for the year ended 31 December 2022. This decrease was primarily attributable to a significant decrease of interest income from loans to Beijing Zhongchuang as such loan was fully repaid in 2022.

Finance costs

Finance costs increased by approximately RMB2.6 million or 3.1% from approximately RMB81.5 million for the year ended 31 December 2021 to approximately RMB84.1 million for the year ended 31 December 2022. This increase was primarily attributable to an increase in loss from modification of lease receivables during the year.

Income tax expenses

Income tax expense increased by approximately RMB10.3 million or 28.8% from approximately RMB35.7 million for the year ended 31 December 2021 to approximately RMB46.0 million for the year ended 31 December 2022. This increase was primarily attributable to the increase in current income tax expense in relation to PRC corporate income tax during the year.

Year ended 31 December 2021 compared to year ended 31 December 2020

Revenue

Our consolidated revenue decreased by approximately RMB85.7 million, or 6.2%, from approximately RMB1,376.3 million for the year ended 31 December 2020 to RMB1,290.6 million for the year ended 31 December 2021, primarily due to a combined effect of decrease by approximately RMB133.0 million in revenue generated from our engineering construction services. Nonetheless, revenue generated from our heat services increased by approximately RMB61.9 million, or 6.4% during the same period. Such increase was mainly attributable to the expansion of our Shuozhou Project and Hulunbuir Project which led to an increase in the actual heat service area of the aforementioned two projects during the same period.

The change in revenue over 2021 by major service/product type is analysed as follows:

- (i) The revenue from the provision and distribution of heat (which included fees from customers for distribution and provision of heat and price subsidies from a local government) increased by approximately RMB53.1 million or 5.8% from RMB907.8 million for the year ended 31 December 2020 to RMB960.9 million for the year ended 31 December 2021, which was mainly related to the expansion of our heat services during the year.
- (ii) The revenue form pipeline connection fee increased by approximately RMB8.8 million or 13.5%, from RMB65.4 million for 2020 to RMB74.2 million for the year ended 31 December 2021, which was in line with increase in the actual heat service area.

- (iii) The revenue from our engineering construction services decreased by RMB133.0 million or 36.7% from RMB362.1 million for the year ended 31 December 2020 to RMB229.1 million for the year ended 31 December 2021, which was mainly due to a one-off construction of primary distribution pipelines for our Shuozhou Project in order to extend and connect our heat distribution network to a cogeneration plant as a new heat source to enhance our heat transmission efficiency in 2020.
- (iv) The revenue from our EMC services remained stable at RMB4.2 million and RMB4.0 million for the year ended 31 December 2020 and the year ended 31 December 2021, respectively.
- (v) The revenue from our heat transmission services decreased by approximately RMB2.5 million or 14.7% from approximately RMB17.0 million for the year ended 31 December 2020 to RMB14.5 million for the year ended 31 December 2021, mainly due to less heat being transmitted during the year, as the largest heat transmission contract ended on November 2021.
- (vi) The revenue from sale of goods decreased by approximately RMB10.5 million or 64.4% from approximately RMB16.3 million for the year ended 31 December 2020 to RMB5.8 million for the year ended 31 December 2021 which was mainly due to a decrease in demand for heat service devices and equipment during the year.

Cost of sales

Cost of sales decreased by approximately RMB107.9 million or 9.9% from approximately RMB1,084.9 million for the year ended 31 December 2020 to approximately RMB977.0 million for year ended 31 December 2021, primarily attributable to the decrease in costs for the construction of primary distribution pipelines for our Shuozhou Project.

Gross profit and gross profit margin

As a result of the foregoing, our gross profit increased by approximately RMB22.3 million or 7.7% from approximately RMB291.4 million for the year ended 31 December 2020 to approximately RMB313.7 million for the year ended 31 December 2021. Our gross profit margin increased from approximately 21.2% for the year ended 31 December 2020 to approximately 24.3% for the year ended 31 December 2021, primarily attributable to an increase in gross profit of our heat services due to the expansion of our actual heat service area.

The gross profit and gross profit margin by major type of service/product are analysed as follows:

(i) Heat services (including fees from customers for the provision and distribution of heat, price subsidies from local government and pipeline connection fee)

The gross profit increased by RMB38.4 million or 16.5% from approximately RMB232.1 million for the year ended 31 December 2020 to RMB270.5 million for the year ended 31 December 2021. The gross profit margin amounted to 23.8% and 26.1% for 2020 and 2021, respectively. The increase in gross profit and gross profit margin was mainly attributed to an improvement of profitability of the Hulunbuir Project, mainly as a result of an increase in our actual heat service area and a decrease in our cost of sales for the Hulunbuir Project since there was a downward adjustment on unit cost of heat procurement in the region during the year. The increase in revenue from pipeline connection fee also led to an increase in the gross profit during the year.

(ii) Engineering construction services

The gross profit decreased by RMB16.4 million or 35.2% from approximately RMB46.6 million for the year ended 31 December 2020 to RMB30.2 million for the year ended 31 December 2021 because there was no large scale construction for primary distribution pipeline in 2021. The gross profit margin remained stable at 12.9% and 13.2% for 2020 and 2021, respectively.

(iii) EMC services

The gross profit decreased from RMB3.3 million for the year ended 31 December 2020 to RMB2.3 million for the year ended 31 December 2021 which was mainly resulting from an increase in staff costs and maintenance expenses incurred during the year.

(iv) Heat transmission services

The gross profit remained stable at approximately RMB6.0 million for the year ended 31 December 2020 to RMB6.3 million for the year ended 31 December 2021. The gross profit margin increased from approximately 35.4% for 2020 to 43.0% for 2021 which was mainly resulting from a decrease in the unit cost of heat procurement in Hulunbuir.

(v) Sale of goods

The gross profit increased by RMB0.7 million or 22.6% from approximately RMB3.1 million for the year ended 31 December 2020 to RMB3.8 million for the year ended 31 December 2021 and the gross profit margin increased from 18.7% for the year ended 31 December 2020 to 66.2% for the year ended 31 December 2021, which was mainly resulting from an increase in sales of heat service related devices such as semi-finished skid-mounted heat exchange units which generally has a higher gross profit margin.

Administrative expenses

Administrative expenses increased by approximately RMB16.3 million or 13.0% from approximately RMB125.0 million for the year ended 31 December 2020 to RMB141.3 million for the year ended 31 December 2021 as we incurred more employee benefit expenses for our expansion of our Lanzhou New Area Project and Shuozhou Project and incurred more research and development expenses.

Reversal/(provision) of impairment losses on financial assets and contract assets

We recorded a provision of impairment losses on financial assets and contract assets of approximately RMB13.5 million for the year ended 31 December 2020 and recorded a reversal of impairment losses of approximately RMB1.0 million for the year ended 31 December 2021, primarily resulting from our execution of the Supplemental EMC, thereby decreasing the expected credit loss rate related to our EMC customer during the same period.

Other income

Other income increased by approximately RMB25.2 million from approximately RMB48.4 million for the year ended 31 December 2020 to approximately RMB73.6 million for the year ended 31 December 2021, primarily attributable to additional government grants received from the relevant local governments for our Lanzhou New Area Project and Shanxi Demonstration Zone Project, respectively.

Other losses – net

Net other losses decreased from approximately RMB0.2 million for the year ended 31 December 2020 to net other losses of approximately RMB0.02 million for the year ended 31 December 2021. This decrease was primarily attributable to the decrease in fair value losses of our investment properties, mainly resulting from a decrease in market rental and losses on disposal of our property, plant and equipment being recognised during the same period.

Finance income

Finance income increased by approximately RMB3.0 million or 11.4% from approximately RMB26.4 million for the year ended 31 December 2020 to approximately RMB29.4 million for the year ended 31 December 2021. This increase was primarily attributable to an increase in interest income from lease receivables and interest income from loans to Beijing Zhongchuang.

Finance costs

Finance costs decreased by approximately RMB11.4 million or 12.3% from approximately RMB92.9 million for the year ended 31 December 2020 to approximately RMB81.5 million for the year ended 31 December 2021. This decrease was primarily attributable to a decrease in bank and other borrowings resulting from our repayments during the same period.

Income tax expenses

Income tax expense decreased by approximately RMB9.9 million or 21.7% from approximately RMB45.6 million for the year ended 31 December 2020 to approximately RMB35.7 million for the year ended 31 December 2021. This decrease was primarily attributable to an increase in credit of our deferred income tax.

DISCUSSION OF CERTAIN ITEMS OF CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

The following table sets out selected information from our consolidated financial statements as at the dates indicated, which have been extracted from our audited consolidated financial statements included in the accountant's report as set out in Appendix I to this document.

	As at 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
ASSETS				
Non-current assets				
Property, plant and equipment	164,800	156,521	155,929	
Investment properties	274,500	272,500	267,200	
Right-of-use assets	34,171	29,890	28,381	
Intangible assets	3,169,936	3,190,673	3,340,965	
Investments accounted for using				
the equity method	72,713	84,824	94,966	
Trade receivables	68,964	81,867	88,158	
Prepayments and other receivables	304,209	238,119	41,865	
Contract assets	44,137	58,671	14,610	
Deferred income tax assets	41,117	49,140	53,674	
	4,174,547	4,162,205	4,085,748	
Current assets				
Inventories	32,900	38,178	48,926	
Trade receivables	364,744	337,726	477,986	
Prepayments and other receivables	324,544	215,510	153,127	
Financial assets at fair value through	11.041	17 120		
profit or loss Restricted cash	11,041	17,139	100 274	
	34,848	76,688	100,374	
Cash and cash equivalents	91,826	136,185	378,068	
	859,903	821,426	1,158,481	
Total assets	5,034,450	4,983,631	5,244,229	

	As at 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
EQUITY AND LIABILITIES				
Equity attributable to owners of				
our Company				
Share capital	226,000	226,000	226,000	
Other reserves	162,739	186,008	200,114	
Retained earnings	131,767	218,791	301,003	
	520,506	630,799	727,117	
Non-controlling interests	92,179	151,597	195,445	
Total equity	612,685	782,396	922,562	
LIABILITIES				
Non-current liabilities				
Borrowings	371,973	597,762	634,464	
Other payables	67,004	32,631	7,386	
Contract liabilities	1,506,471	1,628,637	1,821,454	
Lease liabilities	22,215	18,387	18,677	
Deferred income	54,831	85,125	83,459	
Deferred income tax liabilities	40,322	30,167	20,331	
Provision	15,382	20,210	25,593	
	2,078,198	2,412,919	2,611,364	
Current liabilities				
Borrowings	936,663	463,515	246,750	
Trade and other payables	965,506	816,102	976,277	
Contract liabilities	409,505	462,888	440,546	
Lease liabilities	1,342	1,588	1,005	
Current income tax liabilities	30,551	44,223	45,725	
	2,343,567	1,788,316	1,710,303	
Total liabilities	4,421,765	4,201,235	4,321,667	
Total equity and liabilities	5,034,450	4,983,631	5,244,229	

Non-current assets and liabilities

Property, plant and equipment

During the Track Record Period, property, plant and equipment mainly represented the properties and facilities that we owned for our normal course of business operation. We owned certain levels of industrial complex, Jinsha Buildings and some retail properties, which were classified as buildings under property, plant and equipment. As at 31 December 2020, 2021 and 2022, the total net book amounts of our property, plant and equipment were approximately RMB164.8 million, RMB156.5 million and RMB155.9 million, respectively. The decrease in total net book amounts of our property, plant and equipment, mainly resulted from the depreciation throughout the Track Record Period and our disposal of certain pipelines and heat service facilities to Sinopec New Star, our associate, in 2020.

Investment properties

During the Track Record Period, our investment properties included certain levels of industrial complex and Shantou Complex that we used for rental purpose. Investment properties were valued by an Independent Third Party by using an income approach. The following table sets out the movement in our investment properties for the years indicated.

	For the year ended 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Balance at beginning of the year	280,800	274,500	272,500
Net losses from fair value adjustment	(6,300)	(2,000)	(5,300)
Balance at the end of the year	274,500	272,500	267,200

The following table sets out the amounts recognised in profit or loss for our investment properties as at the dates indicated.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Rental income from operating leases	15,866	14,862	15,149
Fair value losses	(6,300)	(2,000)	(5,300)

During the same period, the fluctuation of investment properties was mainly related to the fluctuation of fair value adjustments mainly due to change in market conditions.

Right-of-use assets

During the Track Record Period, we entered into a number of new leases of office buildings for our operation in Lanzhou and Hulunbuir upon the expiry of the original leases. We also own certain land use rights of office premises, industrial and commercial complex and State-owned allocated land use rights (國有劃撥土地). Such leases and land use rights were recognised as right-of-use assets. Right-of-use assets were generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis. Payments associated with short-term leases and leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. For the details of the measurement and depreciation of our right-of-use assets, see Note 2.30 to the accountant's report as set out in Appendix I to this document.

We had right-of-use assets of approximately RMB34.2 million, RMB29.9 million and RMB28.4 million as at 31 December 2020, 2021 and 2022, respectively. Our right-of-use assets decreased from approximately RMB34.2 million as at 31 December 2020 to approximately RMB29.9 million as at 31 December 2021 and further decreased to approximately RMB28.4 million as at 31 December 2022 mainly because of the depreciation of such right-of-use assets.

Intangible assets

As at 31 December 2020, 2021 and 2022, our intangible assets included (i) goodwill in relation to Taiyuan Renewable Energy; (ii) operating concessions; and (iii) software, amounting to RMB3,169.9 million, RMB3,190.7 million and RMB3,341.0 million, respectively. Our intangible assets were mostly related to our operating concessions, which accounted for 99.3%, 99.3% and 99.3% of our total intangible assets balances as at 31 December 2020, 2021 and 2022, respectively.

Our intangible assets increased from approximately RMB3,169.9 million as at 31 December 2020 to approximately RMB3,190.7 million as at 31 December 2021 and further increased to approximately RMB3,341.0 million as at 31 December 2022. Such increases were mainly attributable to the construction of additional heat service facilities leading to the increase in our operating concession assets.

Intangible assets in relation to operating concessions are recognised principally when we recognise related revenue from engineering construction services for our concession operations. During the Track Record Period, the largest portion of our intangible assets in relation to our operating concessions was related to our Lanzhou New Area Project, primarily due to the fact that we self-produced heat by coal-fired boilers for such project. The smallest portion of our intangible assets in relation to our operating concessions was related to our Shanxi Demonstration Zone Project in Taiyuan, which only commenced operations in September 2018. Intangible assets in relation to our other heat service projects generally increased due to our continuing expansion during the Track Record Period.

The following table sets out our operating concessions recognised under intangible assets by geographical location as at the dates indicated.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Shanxi Province			
Taiyuan	689,007	735,297	755,579
Shuozhou	780,557	728,861	692,334
Gansu Province			
Lanzhou	967,568	1,020,891	1,111,423
Inner Mongolia Autonomous Region			
Hulunbuir	709,657	682,516	662,906
Henan Province			
Zhengzhou			96,599
Total	3,146,789	3,167,565	3,318,841

In June 2017, we reduced our original Concession Area in Taiyuan of Shanxi Province. See "Business – Heat services – Reduction of the size of the Concession Boundary Area for our Taiyuan Project and the possible transfer of the heat facilities in relation to the Subject Area which is currently under negotiation" in this document for the relevant background. Subsequent to the end of 2016/2017 heat service period, we ceased to provide any heat services in the Subject Area and have not recorded any revenue in respect of the Subject Area. All our heat service facilities in the Subject Area have been subsequently operated by a new operator. At the end of August 2017, the carrying value of the concession relating to the Subject Area amounted to approximately RMB71.4 million (with original cost and accumulated amortisation of RMB81.9 million and RMB10.5 million, respectively). Since our Group could no longer generate any future economic benefits from the concession relating to the Subject Area, our Group decided to accelerate the amortisation for the concession relating to the Subject Area and the carrying value of which became zero after such accelerated amortisation took place.

The carrying value of intangible assets is reviewed for impairment annually or when events or changes in circumstances indicate the carrying amounts may not be recoverable in accordance with the accounting policy for the impairment of non-financial assets. The recoverable amount for impairment assessment is the higher of its fair value less costs of disposal and value-in-use. The determination of recoverable amount involves significant estimates. Estimating the value-in-use requires our Group to make estimates for future cash flows and to determine appropriate discount rates and other assumptions. A change in such estimates will result in an adjustment to the estimated impairment provision. Further, goodwill acquired in a business combination is allocated to the CGU that is expected to benefit from that business combination.

Impairment tests for goodwill related to Taiyuan Renewable Energy

Goodwill acquired in a business combination is allocated to the CGU that is expected to benefit from that business combination. Taiyuan Renewable Energy's business was transferred to and undertaken by our Group on 10 October 2010. Our Directors consider Taiyuan Renewable Energy as a separate CGU and the goodwill is allocated to this CGU.

The recoverable amount of the CGU related to Taiyuan Renewable Energy is determined based on value-in-use calculations. The calculation uses pre-tax cash flow projections based on financial forecasts prepared by management covering a five-year period. Cash flows beyond the five-year periods are extrapolated using the estimated growth rates stated below.

The following table sets out the key assumptions for the CGU that have goodwill allocated to it:

	As at 31 December		
	2020	2021	2022
Net profit margin	26.40%	26.50%	27.10%
Revenue growth rate	6%-10%	6%-10%	3%-4%
Terminal growth rate	3.00%	3.00%	3.00%
Pre-tax discount rate	13.52%	13.50%	13.36%

The revenue growth rate is mainly related to the actual heat service area served by the CGU under the relevant concession agreements. Taking into consideration the increase in actual heat service area of the relevant concessions of the CGU during the Track Record Period and the future expansion plan for the heat service business of our Group under concession rights, our Directors expected that the CGU had a steady growth in actual heat service area of 6%-10% in 2020 and 2021, and 3%-4% in 2022.

Having considered China's long-term inflation rate being stable at around 3% during the Track Record Period, our Directors expected the terminal growth rate of the CGU to be 3% and did not adjust their expectation during the Track Record Period.

Based on the result of the goodwill impairment test performed by our Directors, the estimated recoverable amount exceeded the carrying amount by approximately RMB130.7 million, RMB142.5 million and RMB149.3 million as at 31 December 2020, 2021 and 2022, respectively. Accordingly, no impairment provision was required to be made during the Track Record Period. Our Directors have performed a sensitivity analysis on the key assumptions used in the impairment test of goodwill. Any reasonably possible change in the key assumptions on which the recoverable amount is based would not cause the carrying amount of the CGU to exceed its recoverable amount.

If the net profit margin used in the value-in-use calculation had decreased by 10% from management's estimate as at 31 December 2020, 2021 and 2022, the headroom (i.e. the amount by which the estimated recoverable amount exceeded the carrying amount) would have decreased to approximately RMB69.5 million, RMB72.5 million and RMB86.3 million, respectively.

If the revenue growth rate used in the value-in-use calculation had decreased by 10% from management's estimate as at 31 December 2020, 2021 and 2022, the headroom would have decreased to approximately RMB114.8 million, RMB123.6 million and RMB139.8 million, respectively.

If the terminal growth rate used in the value-in-use calculation had decreased by 10% from management's estimate as at 31 December 2020, 2021 and 2022, the headroom would have decreased to approximately RMB115.4 million, RMB125.2 million and RMB132.8 million, respectively.

If the pre-tax discount rate used in the value-in-use calculation had increased by 10% from management's estimate as at 31 December 2020, 2021 and 2022, the headroom would have decreased to approximately RMB56.7 million, RMB66.0 million and RMB77.7 million, respectively.

Impairment tests for intangible assets relating to Shuozhou Renewable Energy

The recoverable amount of the CGU relating to Shuozhou Renewable Energy is determined based on value-in-use calculations. The calculation uses pre-tax cash flow projections based on financial forecasts prepared by management covering the remaining service concession period since the date of assessment.

The carrying value of our intangible assets has been reviewed for impairment annually by our management for the preparation of the financial statements of our Group since then. The recoverable amount of the operating concession assets of Shuozhou Renewable Energy approximated their carrying amount and therefore no impairment loss was recognised for the years ended 31 December 2020 and 2021, respectively.

For the year ended 31 December 2022, an impairment loss of approximately RMB9.4 million was recognised, primarily attributable to the decrease in the expected net profit margin of Shuozhou Renewable Energy for the remaining service concession periods of the Shuozhou Project according to the most recent financial forecasts prepared by our management. Such decrease was mainly because (i) our management lowered the expected revenue growth rate of Shuozhou Renewable Energy for the remaining service concession periods of the Shuozhou Project in the most recent financial forecast since the actual expansion in the actual heat service areas in 2022 for the Shuozhou Project was below our management's expectation; and (ii) the expected costs of sales for the remaining service concession periods of the Shuozhou Project in the financial forecast were revised upwards due to the increase in cost of sales of Shuozhou Renewable Energy in 2022.

	As at 31 December		
	2020	2021	2022
Net profit margin	-3.1%-17.4%	-1.7%-22.1%	-7.2%-17.3%
Revenue growth rate	2%-3%	2%-3%	2%-3%
Pre-tax discount rate	14.35%	13.99%	13.63%

The following table sets out the key assumptions for the impairment assessment:

The revenue growth rate is mainly related to the actual heat service area served by the CGU under the Shuozhou Concession Agreement. Taking into consideration the increase in actual heat service area of the relevant concessions of the CGU during the Track Record Period and the future expansion plan of the CGU, our Directors expected that the CGU had a steady growth in actual heat service area of 2%-3% during the Track Record Period.

Our Directors consider that no impairment charge in 2020 and 2021 was required after performing the impairment assessment. As at 31 December 2020 and 2021, the recoverable amount of the CGU related to Shuozhou Renewable Energy approximated its carrying amount. Therefore, our Directors consider that any reasonably possible changes in the key assumptions as indicated below will result in further impairment charge to be recognised.

If the net profit margin used in the value-in-use calculation had decreased by 5% from management's estimate as at 31 December 2020, 2021 and 2022, we would have recognised a further impairment against the carrying amount of intangible assets of approximately RMB5.8 million, RMB8.0 million and RMB16.7 million, respectively.

If the revenue growth rate used in the value-in-use calculation had decreased by 5% from management's estimate as at 31 December 2020, 2021 and 2022, we would have recognised a further impairment against the carrying amount of intangible assets of approximately RMB7.4 million, RMB8.9 million and RMB5.1 million, respectively.

If the pre-tax discount rate used in the value-in-use calculation had increased by 2% from management's estimate as at 31 December 2020, 2021 and 2022, we would have recognised a further impairment against the carrying amount of intangible assets of approximately RMB10.6 million, RMB12.4 million and RMB11.0 million, respectively.

Investments in associates accounted for using the equity method

Investments in associates accounted for using the equity method represent our investments in our associates, namely our 40% equity interest in Sinopec New Star and 10% equity interest in Shaanxi Gas Group New Energy Development. We had investments in associates accounted for using the equity method of approximately RMB72.7 million, RMB84.8 million and RMB95.0 million as at 31 December 2020, 2021 and 2022, respectively. The increase in our investments in associates throughout the Track Record Period was mainly due to the increase in the net profit of Sinopec New Star as a result of its expanding heat service area over the Track Record Period.

See "Description of major components of our results of operations – Share of profit of associates accounted for using the equity method" in this section for details.

Contract assets

Contracts assets mainly represent our rights to receive consideration in respect of our engineering construction services provided to a local government.

As at 31 December 2020, 2021 and 2022, our contract assets amounted to approximately RMB44.1 million, RMB58.7 million and RMB14.6 million, respectively.

Our contract assets increased from 2020 to 2021 as we provided more engineering construction services which were pending certification by the local government. A project settlement report for the engineering construction services provided in 2019 was issued by the local government in 2022, therefore such part of contract assets were transferred to trade receivable resulting in the decrease in contract assets in 2022.

As at 30 April 2023, no contract assets as at 31 December 2022 had been subsequently certified by the local government.

Our Directors consider that there is no recoverability issue for contract assets and sufficient provision has been made because (i) the customer is a local government and related credit risk is relatively low; and (ii) a project settlement report for part of our engineering construction services was issued by the customer, and as such, approximately 75.1% of our contract assets as at 31 December 2021 were transferred to trade receivables in 2022.

Provisions

Provisions represent provisions made for maintenance and/or restoration under our Concession Agreements. Provisions are measured at the present value of management's best estimate of the expenditures required to settle the present obligation at the end of the Track Record Period. The discount rate used to determine the present value is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The increase in the provision due to the passage of time is recognised as an interest expense.

Under our Concession Agreements, our Group has contractual obligations (i) to maintain the infrastructure to a specified level of serviceability or (ii) to restore the infrastructure to a specified condition before it is handed over to the Grantor at the end of the service arrangement. These contractual obligations to maintain or restore the infrastructure, except forany upgrade element, are recognised in the consolidated statements of financial position and measured in accordance with IAS 37 at the best estimate of the expenditures that will be required to settle the contractual obligations.

Provisions made for such maintenance amounted to approximately RMB15.4 million, RMB20.2 million and RMB25.6 million as at 31 December 2020, 2021 and 2022, respectively. The increase in our provisions during the Track Record Period was primarily resulted from an increased level of usage of our heat service facilities along with the expansion of our actual heat service area.

Current assets and current liabilities

The following table sets out our current assets and current liabilities as at the dates indicated.

	As	at 31 Deceml	ber	As at 30 April
	2020	2021	2022	2023
	RMB'000	RMB'000	RMB'000	RMB'000
				(unaudited)
Inventories	32,900	38,178	48,926	37,682
Trade receivables	364,744	337,726	477,986	560,144
Prepayments and other				
receivables	324,544	215,510	153,127	138,804
Financial assets at fair value				
through profit or loss	11,041	17,139	-	_
Restricted cash	34,848	76,688	100,374	113,167
Cash and cash equivalents	91,826	136,185	378,068	158,775
Total current assets	859,903	821,426	1,158,481	1,008,572
Borrowings	936,663	463,515	246,750	231,875
Trade and other payables	965,506	816,102	976,277	995,705
Contract liabilities	409,505	462,888	440,546	67,240
Lease liabilities	1,342	1,588	1,005	924
Current income tax liabilities	30,551	44,223	45,725	38,875
Total current liabilities	2,343,567	1,788,316	1,710,303	1,334,619
Net current liabilities	1,483,664	966,890	551,822	326,047

As at 31 December 2020, 2021 and 2022, our net current liabilities were approximately RMB1,483.7 million, RMB966.9 million and RMB551.8 million, respectively. Such net current liabilities primarily consisted of our (i) trade and other payables; (ii) borrowings; and (iii) contract liabilities. During the Track Record Period, we had substantial planned capital expenditures for the purchase of property, plant and equipment and construction services for our construction of heat service facilities, resulting in a significant amount of other payables for the acquisition of intangible assets. During this period, we also had a substantial amount of borrowings which was mainly used to support our capital expenditures, and which contributed to our net current liability position. As at 31 December 2020 and 2021, some of our borrowings (in the amounts of approximately RMB193.0 million and RMB179.0 million, respectively), were classified as current liabilities due to our failure to comply with certain covenants and financial undertakings in respect of two long-term bank borrowings, leading to a higher level of current liabilities for those years. As at 31 December 2022, Hulunbuir Shuangliang had re-complied with such financial covenants, and accordingly, we reclassified the loan amounting to RMB158.0 million as at 31 December 2022 as non-current liabilities according to the original payment schedules as set out in the relevant loan contract. As at 31 December 2022, Lanzhou Shuangliang had not re-complied with such financial covenants. In March 2020, we obtained from the lending bank a letter of waiver from strict compliance with certain financial covenants which continued to take effect as at the Latest Practicable Date as confirmed by a supplemental interview with the lending bank on 24 February 2023. Accordingly, we reclassified Lanzhou Shuangliang's loan amounting to approximately RMB286.1 million, RMB271.9 million and RMB203.1 million as at 31 December 2020, 2021 and 2022, respectively, as non-current liabilities according to the original payment schedules as set out in the relevant loan contract. As such, our Directors are of the view that there would not be any financial consequences for the failure to comply with the financial covenants. Our net current liabilities during the Track Record Period were also attributable to a significant amount of contract liabilities (which represented the advance receipts from customers in relation to our heat services and pipeline connection fee) at the end of each year. Such contract liabilities will be recognised as revenue in the following years when the relevant services are provided. Our net current liabilities were higher as at 31 December 2020 primarily due to an increase in short-term borrowings mainly related to our initial capital expenditures required for the expansion of our heat services. See "Risk factors - Risks relating to our business and industry – We had net current liabilities as at 31 December 2020, 2021 and 2022" in this document for the risk relating to our net current liabilities."

In order to improve our net current liabilities position, our Directors confirm that: (i) we will continue to closely monitor our net current liabilities position and optimise our future cash depletion plan and composition of our indebtedness in order to achieve a net current assets position; (ii) we have obtained banking facilities, resulting in a total of RMB824.0 million in unutilised banking facilities as at 31 December 2022, and are committed to maintaining stable relationships with our principal banks so as to obtain and/or renew bank borrowings in a timely manner if so required and on terms acceptable to our Group; and (iii) when our short-term bank loans become due, we will endeavour to extend the term of such loans, and refinance such short-term bank loans with long-term bank loans.

Our net current liabilities decreased by approximately RMB415.1 million, or 42.9% from RMB966.9 million as at 31 December 2021 to RMB551.8 million as at 31 December 2022. Such decrease was primarily resulted from (i) a decrease in current portion of borrowings by approximately RMB216.8 million or 46.8%; and (ii) an increase in cash and cash equivalents by approximately RMB241.8 million or 177.6%. Our net current liabilities decreased by approximately RMB225.8 million, or 40.9% from RMB551.8 million as at 31 December 2022 to RMB326.0 million as at 30 April 2023. Such decrease was primarily resulted from (i) a decrease in contract liabilities by approximately RMB373.3 million or 84.7%.

Our net current liabilities decreased by approximately RMB516.8 million, or 34.8%, from RMB1,483.7 million as at 31 December 2020 to RMB966.9 million as at 31 December 2021. Such decrease primarily resulted from a decrease in (i) trade and other payables by approximately RMB149.4 million or 15.5%; and (ii) borrowings by approximately RMB473.1 million or 50.5%, which were partially offset by an increase in (i) restricted cash by approximately RMB41.8 million or 120.1%; and (ii) cash and cash equivalents by approximately RMB44.4 million or 48.4%.

Despite our net current liabilities position during the Track Record Period, our Directors confirm that we did not experience any material financial difficulties with respect to our cash flow for the following reasons:

- we did not experience any material deterioration in our revenue and net profit during the Track Record Period;
- our net cash from operating activities recorded steady growth during the Track Record Period as a result of the organic growth of our business;
- we were not involved in any material legal proceeding in relation to our failure to settle our trade payables during the Track Record Period;
- we were not involved in any material legal proceeding in relation to our failure to repay our loans during the Track Record Period;
- during the Track Record Period, we did not experience any difficulty in obtaining credit facilities and there was no situation in which a financial institution refused to provide us with a credit facility;
- during the Track Record Period, there was no situation in which we were unable to obtain the normal business credit of a supplier; and
- during the Track Record Period, we did not experience any difficulty in fulfilling our loan repayment obligations, interest or tax obligations or paying wages to our employees.

Our Directors believe that we are able manage our liquidity risk and ensure working capital sufficiency due to the stability of our operating cash flow, in particular from our provision of heat services. For the years ended 31 December 2020, 2021 and 2022, net cash generated from our operating activities amounted to approximately RMB442.5 million, RMB500.0 million and RMB617.8 million, respectively. Going forward, we have implemented a policy to strictly manage the collection of trade receivables to ensure the stability of our operating cash flow. In addition, our management has supervised and will continue to supervise the scale and timing of our investment and capital expenditures to ensure that such expenditures do not result in excessively high liquidity risk exposure. Further, our management has been actively communicating with financial institutions to obtain new credit facilities and adjust the loan structure of our Group by increasing the proportion of our long-term borrowings and reducing the proportion of our short-term borrowings. For future borrowings, we will negotiate with banks to obtain long-term bank loans on favourable terms. From an internal control perspective, we have also designated Mr. Yang Xiaojin, our chief financial officer, to regularly review and update our liquidity funding policies to ensure that it is aligned with our business plan and financial position, and report comprehensively on our Group's working capital and liquidity management to our Board at least once every quarter.

As at 31 December 2022, our Group had unused banking facilities amounting to RMB824.0 million, of which RMB60 million is available to our Group up to June 2023, RMB125.0 million is available to our Group up to July 2023 and could be extended to July 2024, RMB489.5 million is available to our Group up to April 2024 and the remaining RMB149.5 million is available to our Group up to December 2030.

Our Directors have reviewed our Group's cash flow projections for a period not less than twelve months from the balance sheet date, made due enquiries with management and considered the bases and assumptions of the projections. Our Directors are of the opinion that, taking into account our Group's financial performance and operating cash inflows, the capital expenditures plans, the continuous availability of existing facilities and the new credit facilities secured, our Group will have sufficient financial resources to support its operations and to meet its financial obligations as and when they fall due in the coming twelve months from 31 December 2022. Accordingly, our historical financial information has been prepared on a going concern basis.

Inventories

During the Track Record Period, our inventories mainly consisted of (i) raw materials in relation to our heat services such as coal and other chemical consumables; (ii) raw materials being used in our engineering construction services like parts; and (iii) work in progress such as semi-finished skid-mounted heat exchange units and other equipment mainly related to the our sale of heat service-related goods. Costs are assigned to individual items of inventory on the basis of weighted average costs. The following table sets out a breakdown of the inventories as at the dates indicated.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Raw materials and consumables Work in progress	32,851	38,178	48,926
	32,900	38,178	48,926

Our inventories increased by approximately RMB10.7 million, or 28.2%, from approximately RMB38.2 million as at 31 December 2021 to approximately RMB48.9 million as at 31 December 2022, mainly due to (i) the increase in our coal stock to support more coal consumption for our provision of heat service due to the overall expansion of actual heat service area of our Group, and (ii) the increase in coal price in 2022. Our inventories increased by approximately RMB5.3 million, or 16.1%, from approximately RMB32.9 million as at 31 December 2020 to approximately RMB38.2 million as at 31 December 2021, mainly due to an increase in procurement price of coals which were consumed in order to generate heat for our Lanzhou New Area Project.

The following table sets out our average inventories turnover days for the years indicated.

	For the year ended 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Average inventories turnover days ⁽¹⁾	151.3	140.4	111.5

Note:

Our average inventories turnover days were 151.3 days, 140.4 days and 111.5 days for the years ended 31 December 2020, 2021 and 2022, respectively. Our inventories turnover days decreased from approximately 151.3 days for the year ended 31 December 2020 to approximately 140.4 days for the year ended 31 December 2021 and further decreased to approximately 111.5 days for the year ended 31 December 2022, mainly because we managed our inventories more frequently and efficiently to reduce our inventories level, resulting in higher inventories turnover rate.

For the years ended 31 December 2020, 2021 and 2022, ending balances of our coal stock were approximately RMB6.4 million, RMB11.0 million and RMB19.1 million, respectively.

⁽¹⁾ Average inventories turnover days are equal to the average balances of inventories divided by the respective cost of sales and multiplied by 365 days for a year. Average balances of inventories are equal to the sum of the balances of inventories at the beginning of the period and the balances of inventories at the end of the year and divided by two.

We periodically review our inventory levels for slow-moving inventory, obsolescence or decline in market value. Write-down of inventories is recorded when estimated net realisable value is less than cost. In view of the fact that (i) we generally consumed our raw materials in relation to our heat services within the heat service period and keep it at a low level when it is outside the heat service period, and (ii) our raw materials used in engineering construction services generally had a long lifespan, no write-down of inventories was recorded during the Track Record Period. In light of the above, we considered that there is no recoverability issue for inventories and that sufficient provision has been made.

As at 30 April 2023, approximately RMB22.1 million, or 45.1% of our inventories as at 31 December 2022 had been subsequently sold to our customers and/or consumed by our Group.

Trade receivables

During the Track Record Period, our trade receivables mainly represented fees from customers for provision and distribution of heat, price subsidies from local government, and pipeline connection fee.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Included in current assets			
Trade receivables			
- Related parties	11,443	8,252	10,090
– Third parties	385,612	373,483	515,490
	397,055	381,735	525,580
Notes receivables	_	_	50
Lease receivables	24,251	35,106	21,346
Less: allowance for impairment of trade receivables and lease receivables	(56,562)	(79,115)	(68,990)
	364,744	337,726	477,986
Included in non-current assets			
Lease receivables	127,855	116,737	109,749
Less: allowance for impairment of lease receivables	(58,891)	(34,870)	(21,591)
	68,964	81,867	88,158
Total trade receivables	433,708	419,593	566,144
Our trade receivables mainly represent the amounts receivable from (i) local government for price subsidies; (ii) certain large customers of our heat services, such as governmental institutions and property management companies; and (iii) the customer of EMC services. For more information relating to credit policy, see "Business – Heat distribution – Payment and credit policy" in this document.

The following table sets out our trade receivables by customer types as at the dates indicated.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Local government for price subsidies	156,200	122,057	156,000
Customers of heat services	193,904	190,801	236,459
The customer of EMC services	68,963	81,867	89,771
Customers of engineering			
construction services	_	_	51,549
Others	14,641	24,868	32,365
Total trade receivables	433,708	419,593	566,144

As at 31 December 2020, 2021 and 2022, our trade receivable from our EMC customer amounted to approximately RMB69.0 million, RMB81.9 million and RMB89.8 million, respectively. The EMC customer did not meet the demand originally anticipated in the Original EMC during the Track Record Period. We subsequently entered into the Supplemental EMC to negotiate the settlement of the trade receivable and extended the payment schedule, resulting in a decrease in the percentage of sharing revenue and longer payment cycles.

Our trade receivables decreased by approximately RMB14.1 million, or 3.3%, from RMB433.7 million as at 31 December 2020 to RMB419.6 million as at 31 December 2021. Such decrease was primarily due to more settlement made by our customers, including the decrease in the outstanding balance of price subsidies from Customer A, which is the government authority granting price subsidies. Our trade receivables increased by approximately RMB146.6 million, or 34.9%, from approximately RMB419.6 million as at 31 December 2021 to approximately RMB566.1 million as at 31 December 2022. Such increase was primarily due to (i) an increase in amount receivable from local government for price subsidies for the heat services provided in 2022; and (ii) an increase in receivables in relation to the engineering construction services provided to a local government, which is transferred from contract assets.

The following table sets out an aging analysis of our trade receivables (excluding notes receivables and lease receivables) from the date of sales, as at the dates indicated.

	As at 31 December		
	2020	0 2021	2022
	RMB'000	RMB'000	RMB'000
Within 1 year	318,786	288,269	434,000
1 to 2 years	59,186	60,780	52,158
2 to 3 years	11,044	17,381	24,704
Over 3 years	8,039	15,305	14,718
	397,055	381,735	525,580

The balance of our trade receivables (excluding notes receivables and lease receivables) aged over one year amounted to approximately RMB78.3 million, RMB93.5 million and RMB91.6 million, representing approximately 19.7%, 24.5% and 17.4% of our trade receivables (excluding notes receivables and lease receivables) as at 31 December 2020, 2021 and 2022, respectively. For the years ended 31 December 2020, 2021 and 2022, our trade receivables (excluding notes receivables and lease receivables) aged over one year from property development companies and property management companies amounted to approximately RMB47.2 million, RMB52.1 million and RMB55.3 million, representing approximately 60.2%, 55.7% and 60.4% of our trade receivables (excluding notes receivables and lease receivables) aged over one year, respectively. The increase in the balance of our trade receivables (excluding notes receivables and lease receivables) aged over one year from approximately RMB78.3 million as at 31 December 2020 to approximately RMB93.5 million as at 31 December 2021 was mainly attributable to the outbreak of COVID-19 as a global pandemic since early 2020. To contain the COVID-19, the PRC Government has imposed a number of measures across the PRC including, but not limited to, temporary travel restrictions and quarantine for travellers or returnees and shutdown of certain business operations. As a result, some of our customers, being mainly property development companies and property management companies, faced temporary interruption of business activities and financial difficulties in their business operations which led to longer settlement periods or their inabilities in settling the amount due to us. However, taking into account the necessity of heat for such customers, we did not suspend our heat services to them and instead entered into negotiations with them in good faith to make settlement for our heat services at a later time. In light of this, our Group has adopted various measures to manage credit risk, such as (i) conducting monthly review of our balance of trade receivables to regularly analyse aging of our trade receivables; (ii) following up with our customers more frequently in order to improve settlement of the trade receivable balances; and (iii) assessing the credit quality of our customers by taking into account various factors such as their financial position, historical settlement record and other factors including, but not limited to, the economic impact of the unprecedented COVID-19 pandemic on the customers and the regions in which they operate. The balance of our trade receivables aged over one year slightly decreased as at 31 December 2022 due to the gradual resumption of normal commercial and industrial business operations.

The following table sets out our (i) average trade receivables and contract assets turnover days and (ii) trade receivables turnover days for the years indicated.

	For the year ended 31 December		
	2020	2021	2022
Average trade receivables and contract assets turnover days ⁽¹⁾	147.4	148.6	152.6
Average trade receivables turnover days ⁽²⁾	135.2	133.9	145.0

Notes:

- (1) Average trade receivables and contract assets turnover days are calculated based on the average gross balances of trade receivables and contract assets divided by respective revenue (excluded the engineering construction services income for concessions) and multiplied by 365 days for a year. Average gross balances of trade receivables and contract assets are equal to the sum of the gross balances of trade receivables and contract assets at the beginning of the year and the gross balances of trade receivables at the end of the year and divided by two.
- (2) Average trade receivables turnover days are calculated based on the average gross balances of trade receivables divided by respective revenue (excluded the engineering construction services income for concessions) and multiplied by 365 days for a year. Average gross balances of trade receivables are equal to the sum of the gross balances of trade receivables at the beginning of the period and the gross balances of trade receivables at the end of the year and divided by two.

Our average trade receivables and contract assets turnover days remained relatively stable at 147.4 days and 148.6 days for the years ended 31 December 2020 and 2021, respectively.

Our turnover days increased from approximately 148.6 days for the year ended 31 December 2021 to approximately 152.6 days for the year ended 31 December 2022, which was mainly due to aforementioned impact of COVID-19.

Our average trade receivables turnover days remained relatively stable at 135.2 days and 133.9 days for the years ended 31 December 2020 and 2021, respectively. Our turnover days increased from approximately 133.9 days for the year ended 31 December 2021 to approximately 145.0 days for the year ended 31 December 2022, which was mainly due to aforementioned impact of COVID-19.

As at 30 April 2023, approximately RMB147.5 million, or 28.1% of our trade receivables as at 31 December 2022 were subsequently settled.

Our notes receivables represented the notes from our customers in respect of their payment to us. We did not record notes receivables as at 31 December 2020 and 31 December 2021 because we did not receive notes from customers. Our notes receivables as at 31 December 2022 amounted to approximately RMB0.1 million.

Lease receivables represented the amounts receivable from a power plant in relation to the EMC arrangement for which we leased certain equipment and machinery installed in such power plant by us in 2017. See "Business – Provision of EMC services" in this document for details. Such balance remained relatively stable during the Track Record Period.

Our trade receivables generally have no credit term as we require fees for the provision and distribution of heat and pipeline connection fees to be paid in advance in accordance with our industry practice. Our loss allowance provision of trade receivables and contract assets as at 31 December 2020, 2021 and 2022 amounted to approximately RMB115.6 million, RMB114.3 million and RMB90.6 million, respectively. The loss allowance provision of trade receivables from our EMC customer as at 31 December 2020, 2021 and 2022 amounted to approximately RMB98.3 million, RMB87.8 million and RMB42.9 million, representing approximately 85.2%, 77.0% and 47.4% of our loss allowance provision of trade receivables and contract assets, respectively.

Our Group applies the IFRS 9 simplified approach to measure the expected credit loss ("ECL"), which uses a lifetime expected loss provision for all trade receivables. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables. Our Group has identified the Consumer Price Index, Producer Price Index and the unemployment rate of the cities in which it sells its goods and services to be the most relevant factors, and accordingly adjusts the historical loss rates based on the expected changes in these factors.

The following table sets out the movements in loss allowance provision of trade receivables and lease receivable and contract assets for the years indicated.

	For the year ended 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
At the beginning of the year Provision/(reversal) of loss allowance recognised in profit or loss – Trade receivables and lease	102,229	115,635	114,308
receivables	13,284	(1,468)	(23,404)
- Contract assets	112	141	(259)
At the end of the year	115,635	114,308	90,645
At the year ended 31 December Loss allowance provision of: – Trade receivables and lease			
receivables	115,453	113,985	90,581
- Contract assets	182	323	64
	115,635	114,308	90,645

We have been constantly evaluating the financial and credit conditions of our customers and periodically make collective assessment on the recoverability of trade receivables. We use a provision matrix to calculate expected credit loss from trade receivables. The provision rates are based on the number of days past due for different groupings of various customer segments that have similar loss pattern. For the expected loss rates adopted and movement of the gross carrying amount of and loss allowance provision for our trade receivables, please refer to note 3.1(b) to the accountant's report as set out in Appendix I to this document.

In view of the fact that (i) the trade receivables from the local government for price subsidies are generally settled after the heat service period upon the completion of the assessment and issuance of formal reports by the local government authorities and no default events occurred historically; (ii) the trade receivables from the customers, who are governmental institutions and/or State-owned companies, normally have a longer settlement period due to their longer and more complex internal process in settling payments to suppliers, while maintaining generally high historical recovery rates due to their good credit standing; (iii) we have made collective assessment on the trade receivables from other customers andfollowed up with them more frequently based on their historical settlement records, overall quality and credit strength, and we have adopted higher expected loss rates on these customers; and (iv) the settlement rate of our trade receivables is consistent with its historical patterns, we considered that there is no recoverability issue for our trade receivables, and that sufficient provision has been made on trade receivables.

Prepayments and other receivables

The following table sets out the breakdown of our prepayments and other receivables as at the dates indicated.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Included in current assets			
Other receivables and deposits			
- Amounts due from a related party	154,400	40,074	_
– Deposits	11,610	8,542	8,798
- Consideration receivable from			
disposal of intangible assets	10,564	10,564	1,482
- Consideration receivable from			
disposal of right-of-use assets	_	_	_
- Receivable of financing arrangements			
with a third party	52,412	54,724	59,072
– Others	9,732	10,091	11,013
	238,718	123,995	80,365

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Less: allowance for impairment of other			
receivables and deposits	(3,500)	(4,085)	(4,754)
	235,218	119,910	75,611
Deductible value-added tax	54,946	53,070	19,736
Prepayments to suppliers	16,028	18,292	16,304
Prepayments for income tax	5,590	2,727	3,856
Prepaid [REDACTED] expenses	12,762	21,511	37,620
	89,326	95,600	77,516
	324,544	215,510	153,127
Included in non-current assets Receivable of financing arrangements			
with a third party Receivable of finance lease of plant and	106,980	46,207	_
equipment to a related party Less: allowance for impairment of other	30,786	28,403	25,886
receivables and deposits	(642)	(389)	(265)
	137,124	74,221	25,621
Prepayments to related parties	79	3,747	3,819
Deductible value-added tax	155,639	145,315	-
Prepayments for intangible assets	11,367	14,836	12,425
	167,085	163,898	16,244
	304,209	238,119	194,992

During the Track Record Period, amounts due from a related party was mainly attributable to the loan financing arrangement with Beijing Zhongchuang. Such amount decreased from approximately RMB154.4 million as at 31 December 2020 to approximately RMB40.1 million as at 31 December 2021 resulting from the repayment made by Beijing Zhongchuang during the same period. As at 31 December 2022, Beijing Zhongchuang had fully repaid the amounts due to us in accordance with the loan financing arrangement.

During the Track Record Period, deposits mainly represented deposits required for utility services. Our deposits remained relatively stable at approximately RMB8.5 million and RMB8.8 million as at 31 December 2021 and 2022, respectively. Our deposits decreased from approximately RMB11.6 million as at 31 December 2020 to approximately RMB8.5 million as at 31 December 2021, as the utility deposits related to our business operation in Shuozhou of Shanxi Province were adjusted downwards during the same period.

As at 30 April 2023, approximately RMB63.1 million, or 32.4% of our prepayments and other receivables as at 31 December 2022 had been subsequently utilised/settled.

During the Track Record Period, consideration receivable from disposal of right-of-use assets represented the difference between our purchase price of such assets and the compensation received from the Management Committee of Shanxi Transformation and Comprehensive Reform Demonstration Zone* (山西轉型綜合改革示範區管理委員會) for the transfer of a parcel of idle land to it for public usage, which was fully settled in 2019. During the Track Record Period, consideration receivable from disposal of intangible assets represented the compensation related to land reclamation relating to such parcel of idle land by the local government in Taiyuan of Shanxi Province in 2019.

During the Track Record Period, our Group recognised finance income from receivables from financing arrangements with an energy company, which is not a connected person to our Group. In early 2018, such energy company was engaged by the local government authority to conduct the engineering construction works for Xinmi Project. The engineering construction works for phase I of Xinmi Project were completed in December 2018. But the energy company experienced serious financial difficulties so phase II of the engineering construction works cannot be duly completed. After obtaining consent from the local government authority, it started to identify suitable transferee for the heat service-related assets of phase I of Xinmi Project. It was our Group's strategic target to explore the heat services market in Xinmi city of Henan Province at that time and our Group needed such an opportunity to enter into its heat services market, therefore our Group approached the energy company for cooperation. On 4 December 2018, we entered into a series of arrangements with such energy company, pursuant to which they undertook sale and buyback arrangements with our Group for certain heat service infrastructure for the provision of heat service in Xinmi. Such energy company sold such facilities to our Group in December 2018. The total consideration payable to them by our Group for the sale and buyback arrangements was approximately RMB176.0 million. They agreed to purchase back the infrastructure at a total consideration of RMB244.1 million over five years. According to the payment schedule, RMB48.8 million will be paid each year during a five-year operating period. The repurchase price included the effect of the time value of money which is more than the original sale price of the heat service infrastructure. Therefore, the arrangement was accounted for as a financing arrangement provided by our Group to the aforementioned energy company. For the years ended 31 December 2020, 2021 and 2022, our Group recognised finance income from the aforesaid receivables of approximately RMB17.5 million, RMB13.7 million and RMB10.9 million, respectively. Such heat service infrastructure for the provision of heat service in Xinmi is expected to be one of the heat service facilities of our Xinmi Project in the future. Such receivables decreased during the Track Record Period

as the aforementioned energy company consistently repaid us in accordance with the repayment schedule as stipulated in the relevant agreements. As advised by our PRC Legal Advisers, such sale and buyback arrangements stipulated under relevant agreements do not violate the relevant PRC laws and regulation. Save for the financing arrangements as mentioned above, our Directors confirmed that there is no past or present relationship (including but not limited to business, shareholding, employment, family, trust, financing and fund flows) between the energy company, its shareholders, directors, senior management and/or any of their respective associates and our Group, our shareholders, directors, senior management and/or any of their respective associates.

During the Track Record Period, other receivables mainly included deposits and prepayments to our suppliers mainly related to our engineering construction services. Other receivables remained relatively stable during the same period.

Deductible value-added tax represented the recoverable of the value-added tax in relation to the heat procurement, purchase of coals and construction services. Deductible value-added tax decreased over the Track Record Period mainly because the increase in the revenue throughout the Track Record Period resulted in the increase in output value-added taxes, leading to the decrease in deductible value-added tax.

The table below sets out our prepayments as at the dates indicated.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Prepayments for:			
– suppliers	16,028	18,292	16,304
– income tax	5,590	2,727	3,856
- [REDACTED] expenses	12,762	21,511	37,620
- intangible assets	11,367	14,836	12,425
Total	45,747	57,366	70,205

During the Track Record Period, our prepayments mainly consisted of our prepayments for (i) suppliers; (ii) income tax; (iii) [**REDACTED**] expenses to be capitalised; and (iv) intangible assets. During the same period, our prepayments for suppliers were primarily our prepayments in relation to our heat services, which mainly represented prepayments for heat procurement costs and coal procurement costs. Our prepayments for intangible assets mainly represented our prepayments for certain heat service facilities required for our engineering construction services under our concession rights.

Our prepayments increased from approximately RMB45.7 million as at 31 December 2020 to approximately RMB57.4 million as at 31 December 2021, and further increased to approximately RMB70.2 million as at 31 December 2022, which were mainly due to the increase in prepayments for [**REDACTED**] expenses.

Financial assets at fair value through profit or loss

During the Track Record Period, financial assets at fair value through profit or loss represented the investments in wealth management products issued by banks in the PRC with expected investment return rates ranged from 2.10% to 3.88% per annum. The financial assets at fair value through profit or loss were all denominated in RMB. Since we collected the prepayments from our heat service customers before or at the beginning of each heat service period, we utilised temporary idle funds to invest in wealth management products to optimise our capital structure.

As at 31 December 2020, 2021 and 2022, we had financial assets at fair value through profit or loss of approximately RMB11.0 million, RMB17.1 million and nil, respectively.

Our investment in wealth management products is categorised within level 3 of fair value measurement. In relation to the valuation of the wealth management products, our Directors have considered and understand, among others, the following: (i) the terms of the wealth management products subscription agreements; (ii) the valuation related policies and other supporting documents; (iii) the available market information of similar wealth management products; (iv) the expected return rates of the wealth management products and cost of financing in order to assess the level of returns to our Group; and (v) the methodology, assumptions and key parameters adopted for our valuation of such financial instruments. Based on the above considerations, our Directors are of the view that the valuation of our Group's level 3 financial instruments is fair and reasonable and the financial statements of our Group are properly prepared.

Details of the fair value measurement of our level 3 financial instruments, particularly the fair value hierarchy, the valuation techniques and key inputs, including significant unobservable inputs and the relationship of unobservable inputs to fair value of level 3 measurements are disclosed in Note 3.3 to our accountant's report as set out in Appendix I to this document. Our Company's reporting accountant has carried out audit procedures in accordance with Hong Kong Standard on Investment Circular Reporting Engagements 200, Accountants' Reports on Historical Financial Information in Investment Circulars issued by the Hong Kong Institute of Certified Public Accountants. Our reporting accountant's opinion on the historical financial information of our Group for the Track Record Period as a whole is set out on pages I-1 to I-2 of this document.

In relation to the valuation analysis performed by our Directors, the Sole Sponsor has conducted relevant due diligence work, including but not limited to (i) discussing with management of our Company regarding the nature and background of its investment in the wealth management products, including the risk profiles, and the reasons for making such

investments; (ii) reviewing the relevant wealth management products subscription agreements and profile of financial products to independently assess the merits of the proposed investments; (iii) discussing with our Company about the material information affecting the valuation of the wealth management products; (iv) discussing with our Company about the methodology, assumptions and parameters for the valuation of the wealth management products; and (v) discussing with our Company's reporting accountant to understand the work they have performed in relation to the valuation of the wealth management products for the purpose of reporting on the historical financial information of our Group, as a whole, for the Track Record Period.

Based on the work done by our Directors and our Company's reporting accountant, and having considered the relevant due diligence done as stated above, nothing has come to the attention of the Sole Sponsor that would cause the Sole Sponsor to question the valuation analysis performed by our Company on its level 3 financial instruments.

Our treasury and investment policy

It is our treasury management policy to utilise surplus cash reserves to invest in financial products and generate income without interfering with our business operations or capital expenditures, in order to provide sustainable benefits for our Group. We expect to continue to invest in such financial products after [REDACTED]. Mr. Luo Wei, our executive Director, a deputy general manager of our Company and our Board secretary, and Mr. Yang Xiaojin, our chief financial officer, both possess the management expertise for the investment in financial products. Mr. Luo Wei has approximately 25 years of working experience in auditing and financial matters and gained experience from various auditing and corporate positions. Mr. Luo Wei was accredited as a Certified Public Accountant by the Chinese Institute of Certified Public Accountants (中國註冊會計師協會) on 20 December 2002. Mr. Yang Xiaojin also has significant experience in finance and accounting. Prior to joining our Group, Mr. Yang Xiaojin worked as an auditing specialist in Shuangliang Group Co. between April 2014 and May 2015 and then worked as a finance manager in Shuangliang Eco-Energy between June 2016 and April 2017. See "Directors, supervisors and senior management" in this document for further details. To control our risks, we typically invest in low-risk and short-term financial products issued by banks in the PRC.

We have adopted the following internal control measures in place for our investments in financial assets such as wealth management products:

- we typically use our idle funds or spare cash to invest in low-risk financial products, and such investment shall not affect our operation activities and capital expenditures in relation to our main scope of business;
- the financial products we invest in shall be generally short-term and the annualised expected return rate of which shall be typically higher than the annual interest rate of fixed deposits;
- we generally invest in financial products provided by sizable and reputable licensed commercial banks;

- our Board is responsible for the overall planning and evaluation of treasury policy. For investments with an investment amount which is expected to utilise (i) more than 50% of our Group's total net assets and (ii) more than 30% of our Group's total assets based on the latest audited financial statements of our Group, approval from our Board must be obtained before the investment is made. All investments shall comply with the [**REDACTED**] Rules if applicable; and
- our finance department is responsible for the review and oversight of the on-going performance of the financial products.

Restricted cash

During the Track Record Period, our restricted cash represented deposits placed with the banks for the issuance of bank acceptance notes and as deposits of capital expenditures. As at 31 December 2020, 2021 and 2022, we had restricted cash of approximately RMB34.8 million, RMB76.7 million and RMB100.4 million, respectively. The main reason for the increase in the restricted cash during the Track Record Period was that an increase in the amount of cash pledged for bank's acceptance notes and bank loan over the Track Record Period.

Trade and other payables – current liabilities

During the Track Record Period, our trade payables included trade payables to third parties and related parties in relation to our purchases during the ordinary course of our business operation. For details of our transactions of trade nature with related parties, see "Related party transactions" in this section. We were typically not granted any credit term by our major suppliers during the Track Record Period. Our other payables included payables for acquisition of intangible assets, payables for acquisition of property, plant and equipment, employee benefits payables, other taxes payables and others. As at 31 December 2020, 2021 and 2022, our trade and other payables included in current liabilities were RMB965.5 million, RMB816.1 million and RMB976.3 million, respectively.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Trade payables			
- third parties	261,666	259,455	333,259
Notes payables	73,241	57,802	109,738
Other payables			
 amounts due to related parties payables for acquisition of 	50,279	43,195	31,566
intangible assets – payables for acquisition of	407,349	270,678	299,269
property, plant and equipment	4,357	4,230	4,217

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
– employee benefits payables	24,804	28,286	25,218
- other taxes payables	28,527	24,599	37,080
- interest payables	808	489	1,107
- employee reimbursement payables	843	717	2,465
- dividends payables to			
non-controlling interests	40,778	40,778	40,778
– loans from government	28,724	28,067	22,498
- refundable pipeline connection fees	17,811	14,175	2,941
Installment payment for acquisition of			
intangible assets	14,408	34,373	40,551
Others	11,911	9,258	25,590
	965,506	816,102	976,277

Our current trade payables primarily relate to our heat procurement that we require for our business operations. The change in balances of our current trade payables is generally in line with the change in heat procurement cost, and remained relatively stable from 2020 to 2021. The increase in the current trade payables from 2021 to 2022 was mainly due to (i) the increase in procurement of heat and coal and (ii) increase in coal price.

During the Track Record Period, our notes payables mainly represented banks' acceptance bill. Notes payables decreased from approximately RMB73.2 million as at 31 December 2020 to approximately RMB57.8 million as at 31 December 2021 and increased to approximately RMB109.7 million as at 31 December 2022 mainly due to the gradual change in the settlement method by using more notes issued by us for the settlement of the payables from our suppliers.

During the Track Record Period, our payables for acquisition of intangible assets mainly represented the heat service facilities required for the provision of our engineering construction services under our concession rights. Our payables for acquisition of intangible assets decreased from approximately RMB407.3 million as at 31 December 2020 to approximately RMB270.7 million as at 31 December 2021 and slightly increased to approximately RMB299.3 million as at 31 December 2022, which were in line with the changes in our cost of sales of our engineering construction services during the Track Record Period.

During the Track Record Period, our payables for acquisition of property, plant and equipment mainly represented those equipments related to the provision of our heat services. Our payables for acquisition of property, plant and equipment remained stable as at 31 December 2020, 2021 and 2022.

During the Track Record Period, loans from government were mainly related to our business in Shanxi Province. In August 2012 and July 2013, we entered into agreements with Shanxi Provincial Government Investment Asset Management Centre ("Shanxi Government Investment Centre"), pursuant to which Shanxi Government Investment Centre provided to us interest free loans in the aggregate amount of RMB27,500,000 with a term of seven years to support our construction of heating projects in Shanxi Province. Advances in the amount of RMB23,000,000 enjoyed an interest-free period from 2012 to 2019 and advances in the amount of RMB4,500,000 enjoyed an interest-free period from 2013 to 2020. After that, interest would be calculated according to the benchmark loan interest rate. During the Track Record Period and as at the Latest Practicable Date, we did not repay the aforementioned outstanding loans to the government. Such loans were repayable on demand by the government.

During the Track Record Period, refundable pipeline connection fee was related to the shantytown reformation scheme in Hulunbuir of Inner Mongolia Autonomous Region. According to a government notice issued by the local government, 50% of the pipeline connection fee we received was refundable to our heat service customers before or at the beginning of each heat service period. As a result, we recorded refundable pipeline connection fee of approximately RMB17.8 million, RMB14.2 million and RMB2.9 million as at 31 December 2020, 2021 and 2022, respectively.

Our dividends payable to non-controlling interests amounted to approximately RMB40.8 million, RMB40.8 million and RMB40.8 million as at 31 December 2020, 2021 and 2022, respectively. Our Directors expect such dividends payable will be settled upon the **[REDACTED]**.

The following table sets out an aging analysis of our trade payables based on goods/services receipt dates, as at the dates indicated.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Within 1 year	203,639	183,213	224,470
1 to 2 years	28,750	22,777	34,074
2 to 3 years	12,555	25,687	22,761
Over 3 years	16,722	27,778	51,954
	261,666	259,455	333,259

Our trade payables aged over one year amounted to approximately RMB58.0 million, RMB76.2 million and RMB109.8 million as at 31 December 2020, 2021 and 2022, representing approximately 22.2%, 29.4% and 32.9% of our total trade payables, respectively. The overall increase of our trade payables aged over one year during the Track Record Period was mainly attributable to the amount payable to a supplier of heat of our Taiyuan Project, which is a SOE.

We are currently still under negotiation with the Taiyuan Administration in respect of the transfer of our heat facilities in the Subject Area. See "Business – Heat services – Heat service projects under concession operation – Reduction of the size of the Concession Boundary Area for our Taiyuan Project and the possible transfer of the heat facilities in relation to the Subject Area which is currently under negotiation" for details. The Directors are of the view that the heat procurement fees payable by us will be assessed and settled together with the consideration and agreement to be reached in respect of the heat facilities of the Subject Area.

The table below sets out our average trade payables and payables for acquisition of intangible assets turnover days for the years indicated.

	For the year ended 31 December		
-	2020	2021	2022
Average trade payables and payables for			
acquisition of intangible assets	286.2	306.6	255.6
turnover days ^(Note)	286.2	306.6	

Note: Average trade payables and payables for acquisition of intangible assets turnover days is equal to the average trade payables and payables for acquisition of intangible assets divided by relevant cost of sales (excluding the amortisation of relevant intangible assets, right-of-use assets and property plant and equipment) and multiplied by 365 days for a year. Average trade payables and payables for acquisition of intangible assets at the beginning of the period and the trade payables and payables for acquisition of intangible assets at the end of the year and divided by two.

Our average trade payables and payables for acquisition of intangible assets turnover days was 286.2 days, 306.6 days and 255.6 days for the years ended 31 December 2020, 2021 and 2022, respectively.

Our average trade payables and payables for acquisition of intangible assets turnover days were relatively high throughout the Track Record Period, mainly attributable to (i) the amount payable to a supplier of heat if Taiyuan Project as discussed above; and (ii) the amount due to the suppliers of heat of our Shuozhou Project, who are SOEs, which generally would be settled after we received price subsidies from the local government.

Our turnover days increased from approximately 286.2 days for 2020 to 306.6 days for 2021 which was merely due to decrease in costs of sales.

Our turnover days decreased from approximately 306.6 days for 2021 to approximately 255.6 days for 2022, which was mainly due to shorter payment terms provided by our suppliers.

As at 30 April 2023, approximately RMB93.7 million, or 28.1% of the trade payables as at 31 December 2022 were subsequently settled.

Contract liabilities

Our contract liabilities represented the payments received from customers by us while the goods or services are yet to be delivered. Our contract liabilities mainly included the payments received in advance in respect of (i) our provision and distribution of heat; and (ii) pipeline connection fees.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Included in current liabilities			
Provision and distribution of heat	334,067	381,208	345,139
Pipeline connection fees	73,863	80,159	95,032
Sale of goods	350	420	348
Others	1,225	1,101	27
Included in non-current liabilities			
Pipeline connection fees	1,506,471	1,628,637	1,821,454
	1,915,976	2,091,525	2,262,000

The table below sets out our contract liabilities as at the dates indicated.

For our provision and distribution of heat, we normally regulates our customers to make upfront payments before the commencement of service period. For pipeline connection fees, the contract liabilities balances refer to the total pipeline connection fees received since the beginning of respective concession periods. Subsequently, the pipeline connection fee will be recognised as revenue over respective concession periods.

The table below sets out the aging analysis of our contract liabilities in respect of pipeline connection fees by heat service project as at 31 December 2022.

		Shanxi					
	Taiyuan	Demonstration	Shuozhou	Lanzhou	Hulunbuir	Xinmi	
	Project	Zone Project	Project	Project	Project	Project	Total
	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
Within 1 year	37,140	1,317	13,086	23,222	20,267	-	95,032
Between 1 and							
2 years	37,140	1,317	13,086	23,222	20,267	570	95,602
Between 2 and							
5 years	111,420	3,952	39,258	69,665	60,801	1,709	286,805
Over 5 years	460,350	42,109	188,681	413,577	319,520	14,810	1,439,047
	646,050	48,695	254,111	529,686	420,855	17,089	1,916,486

Our contract liabilities (current) include advances received from customers in relation to the provision and distribution of heat as we generally receive payment from customers before the heat service period, pipeline connection service and construction and maintenance services. As at 31 December 2020, 2021 and 2022, our contract liabilities (current) were approximately RMB409.5 million, RMB462.9 million and RMB440.5 million, respectively. Our contract liabilities (current) increased by RMB53.4 million, or 13.0%, from RMB409.5 million as at 31 December 2020 to RMB462.9 million as at 31 December 2021, primarily due to an increase in number of heat service customers. Our contract liabilities (current) decreased by RMB22.3 million, or 4.8%, from RMB462.9 million as at 31 December 2021 to RMB440.5 million as at 31 December 2022, primarily due to a decrease in advances payment from customers in relation to the provision and distribution of heat.

As at 30 April 2023, approximately RMB371.5 million, or 16.4% of our contract liabilities as at 31 December 2022 had been subsequently recognised as revenue.

Deferred income

During the Track Record Period, our deferred income represented government grants relating to the purchase of property, plant and equipment which were recognised on a straight-line over the relevant course of useful live of the respective heat service facilities. As at 31 December 2020, 2021 and 2022, we had deferred income of approximately RMB54.8 million, RMB85.1 million and RMB83.5 million, respectively. Our deferred income increased by RMB30.3 million, or 55.3% from RMB54.8 million as at 31 December 2020 to RMB85.1 million as at 31 December 2021 mainly attributable to the government grant of RMB20.0 million received by our Shuozhou Project during the year ended 31 December 2021 to subsidise our upgrade of the heat service facilities.

The following table sets out the movement of deferred income for the year indicated.

	For the year ended 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
At the beginning of the year	68,765	54,831	85,125	
Additions	_	44,500	17,000	
Recognised in profit or loss	(13,934)	(14,206)	(18,666)	
At the end of the year	54,831	85,125	83,459	

The increase in our deferred income in 2021 was mainly due to an increase in receipt of government subsidies during the year. The decrease in our deferred income in 2020 was mainly due to the periodic amortisation of the income over the period without any new addition in 2020. Our deferred income remained stable as at 31 December 2022.

Indebtedness

The following table sets out the breakdown of our indebtedness as at the dates indicated.

	As	at 31 Decemb	ber	As at 30 April
	2020	2021	2022	2023
	RMB'000	RMB'000	RMB'000	RMB'000
				(unaudited)
Current				
– Borrowings	936,663	463,515	246,750	231,875
 Lease liabilities 	1,342	1,588	1,005	924
– Loans from government	28,724	28,067	22,498	22,818
	966,729	493,170	270,253	255,617
Non-current				
- Borrowings	371,973	597,762	634,464	621,938
 Lease liabilities Amounts advanced from 	22,215	18,387	18,677	17,992
related party	700	700	700	700
	394,888	616,849	653,841	640,630
Total	1,361,617	1,110,019	924,094	896,247

Borrowings

During the Track Record Period, our borrowings primarily consisted of bank borrowings. As at 31 December 2020, 2021 and 2022, our bank borrowings were approximately RMB1,308.6 million, RMB1,061.3 million and RMB881.2 million, respectively. As at 30 April 2023, being the latest practicable date for this indebtedness statement, our bank borrowings were approximately RMB853.8 million. Our bank borrowings and other borrowings were unsecured or secured and/or guaranteed, and denominated in RMB.

The table below sets out a breakdown of our borrowings as at the dates indicated.

	As	at 31 Decemb	er	As at 30 April
	2020	2021	2022	2023
	RMB'000	RMB'000	RMB'000	RMB'000 (unaudited)
Included in non-current liabilities:				
Other borrowings				
- secured	53,000	49,500	_	_
– unsecured	556,518	300,854	_	_
Bank borrowings				
– unsecured and guaranteed	286,118	271,923	203,075	203,967
– unsecured	—	—	59,500	59,500
- secured and guaranteed			408,139	399,846
	895,636	622,277	670,714	663,313
Less: current portion of				
non-current liabilities	(523,663)	(24,515)	(36,250)	(41,375)
	371,973	597,762	634,464	621,938
Included in current liabilities: Bank borrowings				
– secured and guaranteed	223,000	209,000	100,000	_
– unsecured and guaranteed	190,000	230,000	100,000	180,000
- secured and unguaranteed	-	_	10,500	10,500
Current portion of non-current liabilities	523,663	24,515	36,250	41,375
	936,663	463,515	246,750	231,875
Total borrowings	1,308,636	1,061,277	881,214	853,813

As at 31 December 2020, 2021 and 2022 and 30 April 2023, we had aggregate credit facilities of approximately RMB1,308.6 million, RMB1,061.3 million, RMB1,707.5 million and RMB1,861.5 million, respectively. Unused facilities as at the same dates amounted to approximately nil, nil, RMB824.0 million and RMB969.4 million, respectively.

As at 31 December 2020, 2021 and 2022, the other borrowings of Lanzhou Shuangliang amounted to RMB53.0 million, RMB49.5 million and nil, respectively, were secured by intangible assets, which comprised our heat service pipelines. As at 31 December 2020, 2021 and 2022 and 30 April 2023, the bank borrowings of Taiyuan Renewable Energy amounting to RMB30.0 million, RMB30.0 million, nil and nil, respectively, were guaranteed by Shanxi Shuangliang Renewable Energy and secured by the concession right under the Taiyuan Concession Agreement; and the bank borrowings of Hulunbuir Shuangliang amounting to RMB193.0 million, RMB179.0 million, RMB158.0 million and RMB158.0 million, respectively, were guaranteed by our Company and secured by trade receivables.

Bank borrowings of approximately RMB100.0 million as at 31 December 2020 and 2021 were guaranteed by a company owned as to 96.0% by a business acquaintance of one of our Controlling Shareholders (the "Guarantor"). At the same time, Shuangliang Group Co. provided its guarantee to a subsidiary of the Guarantor for its bank loan of similar amount to our bank borrowings of approximately RMB100 million. Our bank borrowings guaranteed by the Guarantor had been fully settled as at the Latest Practicable Date. In addition, bank borrowings of RMB286.1 million, RMB271.9 million, RMB203.1 million and RMB204.0 million as at 31 December 2020, 2021 and 2022 and 30 April 2023, respectively, were guaranteed by Shuangliang Group Co.. Bank borrowings of RMB90.0 million, RMB130.0 million, nil and nil as at 31 December 2020, 2021 and 2022 and 30 April 2023 were guaranteed by Shuangliang Technology. Bank borrowings of Lanzhou Shuangliang amounting to RMB53.0 million, RMB49.5 million, nil and nil as at 31 December 2020, 2021 and 2022 and 30 April 2023 were guaranteed by our Company and secured by intangible assets which comprised our heat service pipelines; the bank borrowings of Shuozhou Renewable Energy amounting to RMB175.0 million and RMB162.5 million were guaranteed by Taiyuan Renewable Energy, our Company, Shuangliang Group Co. and Mr. Miao Wenbin, and secured by trade receivables for price subsidies and certain intangible assets as at 31 December 2022 and 30 April 2023, respectively. Bank borrowings amounting to RMB274.6 million and RMB224.3 million were guaranteed by Gansu Shuangliang as at 31 December 2022 and 30 April 2023, respectively. Shuangliang Group Co. and Shuangliang Technology were our connected persons. For the details, see "Relationship with our Controlling Shareholders - Independence from our Controlling Shareholders - Financial independence" in this document. As at the Latest Practicable Date, the borrowings guaranteed by Shuangliang Technology had been fully settled, and the guarantees by Shuangliang Group Co. and Mr. Miao Wenbin will be released upon the [REDACTED].

Certain of our bank borrowings are subject to the fulfilment of covenants relating to certain debt servicing financial indicators during the Track Record Period. During the Track Record Period, Lanzhou Shuangliang, a subsidiary of our Company, failed to comply with its debt liability ratio covenant and current ratio covenant under its loan contract with the lending bank. As at 31 December 2022, Lanzhou Shuangliang had not re-complied with such financial covenants. In March 2020, we obtained from the lending bank a letter of waiver from strict compliance with certain financial covenants which continued to take effect as at the Latest Practicable Date as confirmed by a supplemental interview with the lending bank on 24 February 2023. Accordingly, we reclassified the loan amounting to approximately RMB286.1 million, RMB271.9 million and RMB203.1 million as at 31 December 2020, 2021 and 2022, respectively, as non-current liabilities according to the original payment schedules as set out in the relevant loan contract.

As at 31 December 2020 and 2021, certain bank loan amounting to approximately RMB193.0 million and RMB179.0 million was classified as current liability in the consolidated statements of financial position as our Group did not comply with certain financial covenants, respectively. As at 31 December 2020, Hulunbuir Shuangliang, a subsidiary of our Company, failed to comply with its debt liability ratio covenant and interest-bearing debt ratio covenant under its loan contract. As at 31 December 2022, Hulunbuir Shuangliang had re-complied with such financial covenants. In connection with Hulunbuir Shuangliang's loan contract, we obtained a waiver letter from the lending bank on March 2022. Accordingly, we reclassified the loan amounting to RMB158.0 million as at 31 December 2022 as non-current liabilities according to the original payment schedules as set out in the relevant loan contract. See Note 3.1(c) to the accountant's report as set out in Appendix I to this document for maturity analysis of term loans with a repayment on demand clause based on agreed scheduled repayments.

In respect of the above-mentioned failure to comply with certain financial covenants for two bank borrowings, we have adopted enhanced internal control measures to prevent recurrence of similar incidents. Such measures include: (i) adopting a policy requiring us to assess the viability of financial covenants included in loan agreements upon taking out new bank loans; (ii) all loan agreements and financial covenants contained in such agreements shall be approved by our chief financial officer; (iii) all financial covenants that we are required to comply with shall be recorded and reviewed regularly to ensure our compliance to the same financial covenants; and (iv) our chief financial officer shall regularly monitor our ability to comply with such financial covenants and confirm our compliance status of the same in each financial year and in each report to ensure the ongoing compliance with our financial covenants.

In view of the fact that (i) our internal control consultant completed a follow-up review on the above internal control measures and did not make further recommendation on our internal control measures relating to the financial covenants; and (ii) we have strictly complied with such enhanced internal control measures since the adoption of these measures, our Directors are of the view that the enhanced internal control measures adopted by our Group are effective in preventing recurrence of similar incidents.

In addition, we obtained other borrowings, which mainly comprised several sales and leaseback financing arrangements between Beijing Zhongchuang and us, which normally have a term of one to two years and bear a fixed interest rate of 6.3% to 6.9% per annum and were secured by heat service pipelines. As at the Latest Practicable Date, these other borrowings from Beijing Zhongchuang had been fully settled.

For details regarding legal compliance of the financing arrangements involving Beijing Zhongchuang and Shuangliang Technology, see "– Related party transactions – (v) financing arrangements" below.

The following table sets out the annual weighted average effective interest rates of borrowings as at 31 December 2020, 2021 and 2022 and the annualised weighted average effective interest rates of borrowings as at 30 April 2023.

	As a	at 31 Decembo	er	As at 30 April
	2020	2021	2022	2023
				(unaudited)
Borrowings	6.03%	5.67%	5.09%	4.98%

As at 30 April 2023, being the latest practicable date for the purpose of this indebtedness statement, we had unused facilities of approximately RMB969.4 million.

Lease liabilities

During the Track Record Period, we incurred lease liabilities as a result of our leasing of pipeline, heat service equipment and office premises. These lease liabilities were measured at net present value of the minimum lease payments during the lease terms that are not yet paid. There was no extension option clause in the relevant lease agreements. As at 31 December 2020, 2021 and 2022 and 30 April 2023, our lease liabilities amounted to approximately RMB23.6 million, RMB20.0 million, RMB19.7 million and RMB18.9 million, respectively.

	As	at 31 Decemb	ber	As at 30 April
	2020	2021	2022	2023
	RMB'000	RMB'000	RMB'000	RMB'000 (unaudited)
Lease liabilities				
- Current	1,342	1,588	1,005	924
– Non-current	22,215	18,387	18,677	17,992
	23,557	19,975	19,682	18,916

The table below sets out a breakdown of our lease liabilities as at the dates indicated.

Guarantee

Our guarantee provided to an associate in respect of its borrowings amounted to RMB7.2 million, RMB7.2 million, nil and nil as at 31 December 2020, 2021 and 2022 and 30 April 2023, respectively. Such guarantee had been released as at the Latest Practicable Date.

Amount advanced from a related party

Amount advanced from a related party amounted to RMB700,000, RMB700,000, RMB700,000 and RMB700,000 as at 31 December 2020, 2021 and 2022 and 30 April 2023. Such amount advanced from a related party was of a non-trade nature and is expected to be settled upon the [**REDACTED**].

Indebtedness statement and confirmation

Except as disclosed in this section above or any intra-group liabilities, we did not have any outstanding or authorised to be issued but unissued debt securities, term loans, other borrowings or indebtedness in nature of borrowing, acceptance credits, mortgages and charges, contingent liabilities or guarantees. Save as disclosed above, our Directors confirm that there had been no material adverse change in our indebtedness since 30 April 2023 and up to the date of this document.

LIQUIDITY AND CAPITAL RESOURCES

Cash flows

We had cash and cash equivalents of approximately RMB91.8 million, RMB136.2 million and RMB378.1 million as at 31 December 2020, 2021 and 2022, respectively. Our cash and cash equivalents are all held in RMB.

The following table sets out our cash flows for the years indicated.

	For the year ended 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
Net cash generated from operating				
activities	442,542	500,027	617,839	
Net cash used in investing activities	(340,136)	(98,725)	(117,858)	
Net cash used in financing activities	(66,755)	(356,943)	(258,098)	
Net increase in cash and cash equivalents	35,651	44,359	241,883	
Cash and cash equivalents at beginning				
of the year	56,175	91,826	136,185	
Cash and cash equivalents at end of the				
year	91,826	136,185	378,068	

Net cash from operating activities

Net cash from operating activities primarily consists of (i) profit before tax; (ii) adjustments for non-cash profit or loss items such as amortisation of intangible assets and profit from construction services under concession operations; and (iii) changes in working capital. Net cash flows from our operating activities was approximately RMB442.5 million, RMB500.0 million and RMB617.8 million for the years ended 31 December 2020, 2021 and 2022, respectively.

For the year ended 31 December 2020, we had net cash generated from operating activities of approximately RMB442.5 million, which was primarily attributable to (i) profit before tax of approximately RMB143.9 million; (ii) amortisation of intangible assets of approximately RMB166.1 million; (iii) profit from construction services under operating concessions of approximately RMB46.6 million; and (iv) cash inflows of approximately RMB145.0 million for working capital adjustment. Our general working capital adjustment included (i) an increase in contract liabilities of approximately RMB162.8 million, which was primarily due to an increase in our heat fees received in advance; (ii) an increase in restricted cash of approximately RMB54.7 million, which was primarily due to the policy related to restricted cash; (iii) a decrease in trade and other payables of approximately RMB44.8 million, which was primarily due to payment to our major suppliers of construction and maintenance; and (iv) a decrease in trade and other receivables of approximately RMB28.7 million, which was primarily due to payment from our major customers for our construction, maintenance and other services.

For the year ended 31 December 2021, we had net cash generated from operating activities of approximately RMB500.0 million, which was primarily attributable to (i) profit before tax of approximately RMB206.7 million; (ii) amortisation of intangible assets of approximately RMB184.3 million; (iii) profit from construction services under operating concessions of approximately RMB29.2 million; and (iv) cash inflows of approximately RMB132.6 million for working capital adjustments. Our general working capital adjustments included (i) an increase in contract liabilities of approximately RMB175.5 million, which was primarily due to an increase in our heat fees received in advance; (ii) a decrease in restricted cash of approximately RMB3.0 million, which was primarily due to the policy related to restricted cash; (iii) a decrease in trade and other payables of approximately RMB11.4 million, which was primarily due to payment to our major suppliers of construction and maintenance; and (iv) a decrease in trade and other receivables of approximately RMB8.8 million, which was primarily due to payment from our major customers for our construction, maintenance and other services.

For the year ended 31 December 2022, we had net cash generated from operating activities of approximately RMB617.8 million, which was primarily attributable to (i) profit before tax of approximately RMB186.3 million; (ii) amortisation of intangible assets of approximately RMB194.9 million; (iii) profit from construction services under operating concessions of approximately RMB34.5 million; and (iv) cash inflows of approximately RMB295.6 million for working capital adjustments. Our general working capital adjustments included (i) an increase in contract liabilities of approximately RMB170.5 million, which was primarily due to an increase in pipeline connection fee resulting from the expansion of our heat service area; (ii) an increase in the amount of cash pledged for bank's acceptance notes and bank loan; and (iii) an increase in trade and other payables of approximately RMB127.3 million, which was primarily due to an increase in trade and other payables of coal.

Net cash from operating activities increased from approximately RMB442.5 million for the year ended 31 December 2020 to approximately RMB500.0 million for the year ended 31 December 2021, and further increased to approximately RMB617.8 million for the year ended 31 December 2022. Such increases were primarily due to the continuous expansion of our Group's heat services business, as well as the measures adopted by our Group to improve payment collection.

Net cash used in investing activities

During the Track Record Period, our net cash flows from investing activities were principally used in (i) purchases and disposal of financial assets at fair value through profit or loss; (ii) purchases of intangible assets; (iii) loans provided and repaid to a related party; and (iv) proceeds from financing arrangements with a third party. Our net cash used in investing activities was approximately RMB340.1 million, RMB98.7 million and RMB117.9 million for the years ended 31 December 2020, 2021 and 2022, respectively.

For the year ended 31 December 2020, our net cash used in investing activities amounted to approximately RMB340.1 million, mainly attributable to (i) cash payment in the purchases of items of property, plant and equipment in 2020 of approximately RMB57.6 million; (ii) purchases of intangible assets of approximately RMB213.0 million; (iii) purchase of financial assets at fair value through profit or loss of approximately RMB743.9 million and disposal of financial assets at fair through profit or loss of approximately RMB748.1 million; and (iv) loans provided to a related party of about RMB150.0 million.

For the year ended 31 December 2021, our net cash used in investing activities amounted to approximately RMB98.7 million, mainly attributable to (i) purchases of intangible assets in 2021 of approximately RMB300.3 million; (ii) purchase of financial assets at fair value through profit or loss of approximately RMB77.0 million; (iii) disposal of financial assets at fair value through profit or loss of approximately RMB71.3 million; and (iv) government grants received in relation to purchase of intangible assets of approximately RMB44.5 million.

For the year ended 31 December 2022, our net cash used in investing activities amounted to approximately RMB117.9 million, mainly attributable to (i) purchases of intangible assets in 2022 of approximately RMB273.7 million; (ii) loans repaid by a related party of approximately RMB40.0 million; (iii) a decrease in restricted cash for deposit of capital expenditure of approximately RMB38.8 million; and (iv) proceeds from financing arrangements with a third party of approximately RMB31.0 million.

Net cash used in investing activities decreased from approximately RMB340.1 million for the year ended 31 December 2020 to approximately RMB98.7 million for the year ended 31 December 2021, primarily attributable to the repayment of the loans and interest by the related party, as well as government grants received in relation to our purchase of intangible assets. Net cash used in investing activities increased from approximately RMB98.7 million for the year ended 31 December 2021 to approximately RMB117.9 million for the year ended 31 December 2022, primarily due to (i) a change from release of restricted cash for intangible assets to a cash inflow of restricted cash of approximately RMB38.8 million and (ii) an increase in disposal of intangible assets; which was partially offset by a reduction in disposal of financial assets at fair value through profit or loss during the year.

Net cash used in financing activities

During the Track Record Period, our net cash flows from financing activities mainly included (i) proceeds from and repayment of borrowings; (ii) loans and repayment of loans from a related party; and (iii) payments for lease liabilities. Our net cash used in financing activities amounted to approximately RMB66.8 million, RMB356.9 million and RMB258.1 million for the years ended 31 December 2020 and 2021 and 2022, respectively.

For the year ended 31 December 2020, our net cash used in financing activities amounted to approximately RMB66.8 million, mainly attributable to (i) repayment of borrowings of approximately RMB89.5 million; (ii) interest paid on borrowings of approximately RMB85.1 million; and (iii) purchase of equipment by instalments of approximately RMB48.0 million, which were partially offset by proceeds from borrowings of approximately RMB95.2 million.

For the year ended 31 December 2021, our net cash used in financing activities amounted to approximately RMB356.9 million, mainly attributable to (i) repayment of borrowings of approximately RMB748.4 million; and (ii) interest paid on borrowings of approximately RMB73.0 million, which was partially offset by proceeds from borrowings of approximately RMB501.0 million.

For the year ended 31 December 2022, our net cash used in financing activities amounted to approximately RMB258.1 million, mainly attributable to (i) proceeds from borrowing of approximately RMB846.0 million; and (ii) repayment of borrowings of approximately RMB976.6 million.

Net cash used in financing activities increased significantly from approximately RMB66.8 million for the year ended 31 December 2020 to RMB356.9 million for the year ended 31 December 2021, primarily attributable to a decrease in our proceeds from borrowings of approximately RMB494.2 million, which was partially offset by a decrease in our repayment of borrowings by approximately RMB141.2 million. Net cash used in financing activities decreased from approximately RMB356.9 million for the year ended 31 December 2021, to approximately RMB258.1 million for the year ended 31 December 2022. The decrease was primarily due to an increase in our repayment of borrowings of approximately RMB976.6 million, which was partially offset by proceeds from borrowings of approximately RMB846.0 million during the year.

CAPITAL EXPENDITURES

Our historical capital expenditures during the Track Record Period primarily included expenditures for our purchases of property, plant and equipment and construction of heat service facilities. We funded our capital expenditures requirements and long-term investments during the Track Record Period mainly from cash flow generated from our operations and bank facilities. Our capital expenditures amounted to approximately RMB270.6 million, RMB305.1 million and RMB288.9 million for the years ended 31 December 2020, 2021 and 2022, respectively.

Our capital expenditures for the year ending 31 December 2023 are expected to amount to approximately RMB324.8 million, which will be primarily used for procuring raw materials/contracting for constructing heat service facilities for expansion of our heat services. We plan to fund our future capital expenditures using the [**REDACTED**] received from the [**REDACTED**] and internal resources, including but not limited to: our cash and cash equivalents and banking facilities. We may reallocate the funds to be utilised for our capital expenditures and future development based on our ongoing business plans.

CAPITAL COMMITMENTS

During the Track Record Period, we had capital expenditures contracted for but not yet incurred. Our capital commitments were mainly related to intangible assets that we purchased for the construction of heat service facilities in order to expand our existing heat service project and preparing for a new heat service project. The following table sets out our capital commitments as at the dates indicated.

	As at 31 December			
	2020	2021	2022	
	RMB'000	RMB'000	RMB'000	
Intangible assets	68,990	111,294	57,963	

CONTINGENT LIABILITIES

Our Directors confirmed that we did not have any outstanding loan capital, bank overdrafts and liabilities under acceptance or other similar indebtedness, debentures, mortgages, charges or loans, or acceptance credits or hire purchase commitments, guarantees or other material contingent liabilities or any covenant in connection therewith as at 30 April 2023, being the latest date for the purpose of the indebtedness statement.

WORKING CAPITAL CONFIRMATION

Our future cash requirements will depend on many factors, including our operating income, changing business conditions and future developments, including any potential investments or acquisitions we may decide to pursue. Heat service is a basic necessity for the livelihood and work conditions of the residents in the regions we are operating. Therefore, we believe that our operating income generated from our business operations will remain stable. Accordingly, we anticipate that net cash generated from operating activities will remain stable going forward.

Our Directors confirm that, taking into account our current cash and cash equivalents, anticipated cash flows from operations, proceeds from the [**REDACTED**] and banking/credit facilities available to us, as well as the mitigating factors to our net current liabilities as discussed above, we will have available sufficient working capital for our present requirements that is for at least the next 12 months from the date of this document.

OFF-BALANCE SHEET TRANSACTIONS

During the Track Record Period and up to the Latest Practicable Date, we had not entered into any off-balance sheet transaction.

RELATED PARTY TRANSACTIONS

Parties are considered to be related if one party has the ability, directly or indirectly, control the other party or exercise significant influence over the other party in making financial and operation decisions. Parties are also considered to be related if they are subject to common control. Members of key management and their close family member of us are also considered as related parties.

During the Track Record Period, we carried out certain transactions with related parties as set out in Note 38 to the accountant's report as set out in Appendix I to this document.

	Year ended 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Sale of goods and services to			
Shuangliang New Energy Equipment	13,920	_	_
Sinopec New Star	2,825	2,468	3,375
Purchases of plant and equipment from			
Shuangliang Boiler	419	2,205	2,177
Shuangliang New Energy Equipment	11,244	_	_
Shuangliang Eco-Energy	19,029	11,891	13,913
Wuxi Hundun	308	644	268
Shuangliang Eco Engineering	6,201	-	-
Sinopec New Star	-	464	891
Purchases of services from			
Jiangyin Hotel	641	642	1,107
Shuangliang Spandex	-	_	10
Lease arrangements			
Finance lease of plant and equipment to			
Sinopec New Star	30,786	-	-
Interest income from financing lease to			
Sinopec New Star	1,320	1,468	1,334
Finance lease from Sinopec New Star Interest expense on finance lease from	11,031	_	-
Sinopec New Star	643	592	538
Lease from Jiangyin Hotel	181	_	_
Interest expense on lease from Jiangyin			
Hotel	11	6	2
Financing arrangements			
Loans provided to Beijing Zhongchuang	150,000	_	-
Loans repaid by Beijing Zhongchuang Interest received from Beijing	_	110,000	40,000
Zhongchuang Interest income from loan to Beijing	-	11,918	498
Zhongchuang	4,400	7,592	424
Interest paid to Beijing Zhongchuang	46,764	29,405	10,937
Interest expenses to Beijing	10,704	27,403	10,207
Zhongchuang	47,233	29,668	10,187
Borrowings from Beijing Zhongchuang	450,000	11,000	
2 onto whigh from Dorjing Zhongondung	100,000	11,000	

The following table sets out the outstanding balances as at 31 December 2020, 2021 and 2022 in relation to certain transactions with related parties as set out in Appendix I to this document.

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Trade nature			
Trade receivables for sale of goods or services			
Shuangliang New Energy Equipment	5,048	2,608	2,608
Shuangliang Eco-Energy	_	7	_
Sinopec New Star	6,395	5,637	7,482
	11,443	8,252	10,090
Receivable of finance lease of plant and equipment to a related party	20.704	20, 402	25.000
Sinopec New Star	30,786	28,403	25,886
Prepayments for purchase of goods or services			
Shuangliang Eco-Energy	24	3,379	3,376
Shuangliang Boiler	55	_	75
Wuxi Hundun		368	368
	79	3,747	3,819
Contract liabilities for sales of services			
Sinopec New Star	530		

	As at 31 December		
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Trade and other payables for purchase			
of goods and services			
Shuangliang Eco-Energy	13,741	11,933	3,648
Shuangliang Boiler	73	731	37
Zhejiang Shuangliang Shangda	8	8	8
Jiangyin Hotel	84	140	210
Shuangliang Eco Engineering	20,421	17,526	17,526
Shuangliang New Energy Equipment	13,412	9,705	6,705
Sinopec New Star	1,608	2,130	2,585
Wuxi Hundun	232	322	147
	49,579	42,495	30,866
Payable for finance lease of plant and equipment from a related party Sinopec New Star	10,199	9,317	8,380
	As	at 31 Decembe	er
	2020	2021	2022
	RMB'000	RMB'000	RMB'000
Non-trade nature			
Amounts due from a related party			
Beijing Zhongchuang	154,400	40,074	
Amounts advanced from a related party Sinopec New Star ^(Note)	700	700	700
	As	at 31 Decembe	er
	As	at 31 Decembe	er2022
Other borrowings	2020 RMB'000	2021 RMB'000	2022
<i>Other borrowings</i> Beijing Zhongchuang	2020	2021	2022

Note: The amounts advanced from a related party will be settled upon the [REDACTED].

(i) Sale of goods and services

During the Track Record Period, our sales of good and services to Jiangsu Shuangliang New Energy Equipment and Sinopec New Star mainly represented the sales of heat service related products such as semi-finished skid-mounted heat exchange unit and other equipment for their manufacturing purposes.

(ii) Purchases of plant and equipment and other assets

During the Track Record Period, our purchases of plant and equipment and other assets from Shuangliang Boiler, Shuangliang New Energy Equipment, Shuangliang Eco-Energy, Shuangliang Eco Engineering and Sinopec New Star mainly represented the purchases of plant and equipment for our heat service facilities construction.

During the same period, our purchases of other assets from Wuxi Hundun mainly represented a one-off purchase of a IT system and relevant services to support our heat service operation.

(iii) Purchase of services

During the Track Record Period, Jiangyin Hotel provided us services of catering and conference organising in the leased premises to us, and Shuangliang Spandex leased a property for office use to us.

(iv) Lease arrangements

During the Track Record Period, leases with related parties included (i) leases to and from Sinopec New Star; and (ii) lease arrangement with Jiangyin Hotel. Lease to Sinopec New Star represented leasing of our unused primary distribution pipelines to Sinopec New Star for its heat services; and lease from Sinopec New Star represented leasing of two medium-deep geothermal wells for our Shanxi Demonstration Zone Project.

(v) Financing arrangements

During the Track Record Period, we entered into certain financing arrangements with (i) Beijing Zhongchuang and (ii) Shuangliang Technology. Financing arrangements with Beijing Zhongchuang included (i) a one-off short term loan provided to Beijing Zhongchuang; and (ii) sales and leaseback financing arrangements from Beijing Zhongchuang to support our medium to long term capital expenditures to construct our heat service facilities. Advances from Shuangliang Technology were for the purpose of facilitating our normal business development needs.

As advised by our PRC Legal Advisers, according to the General Lending Provisions (貸款通則) issued by the PBOC in 1996, only financial institutions may engage in business of extending loans, and loans between companies that are not financial institutions are prohibited. The PBOC may impose penalties on the lender in the amount equivalent to one to five times of the income generated from loan advancing activities. However, based on the fact that our Group had not been subject to penalties for the loans and advances during the Track Record Period and up to the Latest Practicable Date, and having considered the following reasons:

- (a) according to the Provisions of the Supreme People's Court on Several Issues concerning the Application of Law in the Trial of Private Lending Cases (《最高人民法院關於審理民間借貸案件適用法律若干問題的規定》) (the "No. 6 Provisions") promulgated on 6 August 2015, last revised on 29 December 2020 and became effective on 1 January 2021, (i) in terms of a private lending contract concluded between legal persons or unincorporated organisations or between a legal person and an unincorporated organisation for the need of production and operation, except under any of the circumstances as prescribed in Article 13 thereof and in Article 146, Article 153 and Article 154 of the Civil Code of the PRC, relevant people's court shall recognise the validity of the private lending contract; and (ii) relevant people's court shall support the claim by the lender for the payment of the interests under the lending contract where the annual interest rate agreed by the parties to the lending contract does not exceed four times of the loan prime rate for one-year loan when the contract is concluded;
- (b) in accordance with the Legislation Law of the People's Republic of China (《中華 人民共和國立法法》), National People's Congress and Standing Committee of the National People's Congress enacts the laws, while the State Council enacts administrative regulations in accordance with the constitution and the laws of the PRC. The PBOC only enacts the departmental regulations in accordance with the laws and administrative regulations. The General Lending Provisions issued by the PBOC are only departmental regulations but not laws and administrative regulations of the PRC;
- (c) according to (i) our loan agreement entered into with Beijing Zhongchuang; and (ii) the written confirmation provided by our Group in relation to the advances from Shuangliang Technology, such loan and advances were made for the purpose of the parties' normal business operation. They did not involve any circumstances as prescribed in Article 13 of the No. 6 Provisions and in Article 146, Article 153 and Article 154 of the Civil Code of the PRC and the annual interest rate of each of the loan and advances is within the scope allowed by the No. 6 Provisions; and
- (d) our PRC Legal Advisers made a consultation with the Jiangyin sub-branch of PBOC, the relevant competent authority as confirmed by our PRC Legal Advisers, which confirmed that PBOC does not govern the ordinary course of lending activities between legal persons for the need of ordinary business operation and it will not impose any penalties on us for such loan and advances,

our PRC Legal Advisers are of the view that (i) the above loan and advances are legally binding on the parties; (ii) such loan and advances are not in violation of PRC mandatory laws and administrative regulations; (iii) such loan and advances do not constitute a material adverse impact on our Group's business operation; and (iv) the risk of us being penalised by the PBOC is remote.

As advised by our PRC Legal Advisers, based on the written confirmations issued by Hulunbuir City Housing and Urban-Rural Development Bureau* (呼倫貝爾市住房和城鄉建設 局) ("Hulunbuir Bureau"), Shuozhou Gas and Heating Supply Guarantee Centre* (朔州市供 氣供熱保障中心) ("Shuozhou Centre", formerly known as the Shuozhou City Gas and Heating Service Centre* (朔州市城市供氣供熱服務中心)) Lanzhou Bureau, each of them being a competent authority to provide such confirmation, the provision of loans from Beijing Zhongchuang by way of sales and leaseback financing arrangements does not affect the validity of the relevant concession agreements, nor does it have any impact on the legal compliance of our heat services. Based on the above, our PRC Legal Advisers are of the view that the sales and leaseback financing arrangements are in compliance with the relevant PRC laws and regulations.

Our Directors have confirmed that the material related party transactions during the Track Record Period were conducted on arm's length basis, and in aggregate would not distort our historical results over the Track Record Period or make out historical results over the Track Record Period not reflective of our expectations of our future performance.

KEY FINANCIAL RATIOS

The following table sets out our key financial ratios as at the dates and for the years indicated.

	As at/for the year ended 31 December			
	2020	2021	2022	
Current ratio ⁽¹⁾	0.4	0.5	0.7	
Quick ratio ⁽²⁾	0.4	0.4	0.6	
Return on total assets ⁽³⁾	2.0%	3.4%	2.7%	
Return on equity ⁽⁴⁾	17.4%	24.5%	16.5%	
Gearing ratio ⁽⁵⁾	2.1	1.4	1.0	
Net debt to equity ratio ⁽⁶⁾	2.0	1.2	0.5	
Interest coverage ⁽⁷⁾	2.5 times	3.5 times	3.2 times	
Net profit margin ⁽⁸⁾	7.1%	13.3%	9.7%	

Notes:

⁽¹⁾ Current ratio is calculated by dividing total current assets by total current liabilities as at the end of the year.

⁽²⁾ Quick ratio is calculated by dividing total current assets less inventories by total current liabilities as at the end of the year.

- (3) Return on total assets is calculated by dividing net profit by the average balances of the total assets for the year.
- (4) Return on equity is calculated by dividing net profit by the average balances of equity for the year.
- (5) Gearing ratio is calculated by dividing total borrowings by total equity as at the end of the year.
- (6) Net debt to equity ratio is calculated by dividing net debt by total equity as at the end of the year. Net debt is calculated as total borrowings less cash and cash equivalents as at the end of the year.
- (7) Interest coverage is calculated based on the profit before interest and income tax for the year divided by respective finance costs for the year.
- (8) Net profit margin is equal to net profit divided by total revenue for the year.

Current ratio

Our Group's current ratio was 0.4, 0.5 and 0.7 as at 31 December 2020, 2021 and 2022, respectively. Our Group's current ratio increased from 0.4 as at 31 December 2020 to 0.5 as at 31 December 2021, and further increased to 0.7 as at 31 December 2022, mainly due to a continuing decrease in our current liabilities resulting from a reduction in our short-term borrowings during the Track Record Period and a decrease in our contract liabilities in respect of our provision and distribution of heat as at 31 December 2022.

Quick ratio

Our Group's quick ratio was 0.4, 0.4 and 0.6 as at 31 December 2020, 2021 and 2022, respectively. Our Group's quick ratio remained stable at 0.4 and 0.4 as at 31 December 2020 and 2021, respectively. Our quick ratio increased from 0.4 as at 31 December 2021 to 0.6 as at 31 December 2022, mainly due to the aforementioned decrease in our contract liabilities while our level of quick assets remained stable.

Return on total assets

Our Group's return on total assets was 2.0%, 3.4% and 2.7% for the years ended 31 December 2020, 2021 and 2022, respectively, the changes of which were generally in line with the changes in our net profit during the same years. Our Group's return on total assets increased from 2.0% for the year ended 31 December 2020 to 3.4% for the year ended 31 December 2021, mainly due to the increase in our net profit during the year, and our return on total assets decreased to 2.7% for the year ended 31 December 2022 mainly due to a decrease in net profit during the year.

Return on equity

Our Group's return on equity was 17.4%, 24.5% and 16.5% for the years ended 31 December 2020, 2021 and 2022, respectively. Our Group's return on equity increased from 17.4% for the year ended 31 December 2020 to 24.5% for the year ended 31 December 2021 as the increase in our Group's net profit outpaced the increase in our Group's equity. Our return on equity decreased from 24.5% for the year ended 31 December 2021 to 16.5% for the year ended 31 December 2022, mainly due to a decrease in net profit.

Gearing ratio

Our Group's gearing ratio was 2.1, 1.4 and 1.0 as at 31 December 2020, 2021 and 2022. Our gearing ratio improved from 2.1 as at 31 December 2020 to 1.4 as at 31 December 2021, and further improved to 1.0 as at 31 December 2022 mainly due to the continuing increase in our Group's total equity as well as the continuing decrease in our total borrowings throughout the Track Record Period.

Net debt to equity ratio

Our Group's net debt to equity ratio decreased from 2.0 as at 31 December 2020 to 1.2 as at 31 December 2021, and further decreased to 0.5 as at 31 December 2022, mainly due to a continuing increase in our retained earnings and non-controlling interests and a decrease in our borrowings over the Track Record Period.

Interest coverage

Our Group's interest coverage ratio increased from 2.5 times for the year ended 31 December 2020 to 3.5 times for the year ended 31 December 2021, because of the combined effect of (i) the increase in our Group's profit before finance costs and tax; and (ii) the decrease in finance costs as a result of the decrease in overall borrowings. Our Group's interest coverage ratio decreased to 3.2 times for the year ended 31 December 2022 due to the combined effect of (i) a slight increase in finance costs and (ii) a decrease in our Group's profit before finance costs and tax compared to that for the year ended 31 December 2022.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISKS

We are exposed to a variety of financial risks, including market risk (including exchange risk, interest rate risk and price risk), credit risk and liquidity risk. See Note 3.1 to the accountant's report as set out in Appendix I to this document. We manage and monitor these exposures to ensure appropriate measures are implemented in a timely and effective manner. We did not hedge or consider necessary to hedge any of these risks as at the Latest Practicable Date.

DIVIDEND AND DIVIDEND POLICY

No dividend had been paid or declared by our Company during the Track Record Period. We currently aim to pay a total dividend in respect of each financial year of not less than 30% of our annual distributable profit. The declaration and payment of future dividends will be subject to various factors, including our future earnings and cash inflows, future plan for use of funds, long-term development of our business, statutory reserves, discretionary common reserve funds, legal and regulatory restrictions, and other factors which our Directors consider relevant. We may declare and pay dividends by way of cash or by other means that we consider appropriate in the future. Distribution of dividends will be decided by our Board at their discretion and will be subject to Shareholders' approval. In addition, our dividend policy will

also be subject to our Articles of Association, the PRC Company Law, any other applicable PRC laws and regulations. In any event, we will pay dividends out of our profit after tax only after we have made the following allocations:

- (1) recovery of accumulated losses, if any;
- (2) allocation to the statutory common reserve fund an amount of no less than 10% of our profit after tax, as determined under PRC GAAP; and
- (3) allocation, if any, to a discretionary common reserve fund an amount approved by the shareholders in a shareholders' meeting.

We are a joint stock limited company established in the PRC on 3 September 2010 and the payment and amount of any future dividend will also depend on the availability of dividends received from our subsidiaries of our Group. Payment of dividends is subject to restrictions under PRC laws. Under PRC laws, dividends may be paid only out of distributable profits. Distributable profits are our net profit as determined under PRC GAAP or IFRS, whichever is lower, less any recovery of accumulated losses and appropriations to statutory and other reserves that we are required to make. Moreover, because the calculation of distributable profits under PRC GAAP is different from the calculation under IFRS in certain respects, our operating subsidiaries may not have distributable profits as determined under PRC GAAP, even if they have profits for that year as determined under IFRS, or vice versa. For risks in relation to payment of dividends, see "Risk factors – Risks relating to our business and industry – Payment of dividends is subject to restrictions under PRC laws" in this document.

DISTRIBUTABLE RESERVES

As at 31 December 2022, our Group had distributable reserves of RMB300.3 million.

[REDACTED] EXPENSES

The estimated total [REDACTED] expenses, including [REDACTED] commissions (based on the mid-point of the [REDACTED] range and assuming that the [REDACTED] is not exercised) for the [REDACTED], are approximately RMB[REDACTED] million (HK\$[REDACTED] million), representing approximately [REDACTED]% of the gross proceeds from the [REDACTED]. Such estimated total [REDACTED] expenses include (i) [REDACTED]-related expenses, including [REDACTED] commission of approximately RMB[**REDACTED**] million (HK\$[**REDACTED**] million); (ii) fees and expenses of our legal advisers and reporting accountant of approximately RMB[REDACTED] million (HK\$[REDACTED] million); and (iii) other fees and expenses of approximately RMB[**REDACTED**] million (HK\$[**REDACTED**] million). Up to 31 December 2022, [REDACTED] expenses of approximately RMB4.2 million (HK\$4.6 million) were expensed through the statement of profit or loss, while as at 31 December 2022, approximately RMB37.6 million (HK\$41.3 million) was recognised as prepaid [REDACTED] expenses, and such amount is expected to be recognised directly as a deduction from equity upon the [REDACTED]. For the year ending 31 December 2023, an estimated amount of approximately RMB[**REDACTED**] million (HK\$[**REDACTED**] million) is expected to be expensed through the statement of profit or loss and an additional amount of approximately RMB[REDACTED] million (HK\$[REDACTED] million) is expected to be recognised directly as a deduction from equity upon the [REDACTED].

[REDACTED]

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FINANCIAL INFORMATION

[REDACTED]

THIS DOCUMENT IS IN DRAFT FORM, INCOMPLETE AND SUBJECT TO CHANGE. THE INFORMATION IN THIS DOCUMENT MUST BE READ IN CONJUNCTION WITH THE SECTION HEADED "WARNING" ON THE COVER OF THIS DOCUMENT.

FINANCIAL INFORMATION

NO MATERIAL ADVERSE CHANGE AND RECENT DEVELOPMENTS

Our Directors have confirmed that, since 31 December 2022 (being the date to which our Company's latest consolidated financial results were prepared) and up to the date of the document, there has been no material adverse change in our financial or trading position or prospects and no event has occurred that would materially and adversely affect the information shown in our consolidated financial statements in the accountant's report as set out in Appendix I to this document. For the details in relation to the recent developments of our Group, see "Summary – Recent developments and no material adverse change" in this document.

DISCLOSURE UNDER RULES 13.13 TO 13.19 OF THE LISTING RULES

Our Directors confirm that as at the Latest Practicable Date, there was no circumstance that would give rise to a disclosure requirement under Rules 13.13 to 13.19 of the Listing Rules.

PROPERTY INTEREST AND PROPERTY VALUATION

As at 31 March 2023, certain of our property interests that are for property activities had a carrying amount of above 1% of our total assets. For such properties valued by our property valuer (the "**Valued Properties**"), see the property valuation report as set out in Appendix IV to this document pursuant to Rule 5.01A of the Listing Rules. The table below sets out the reconciliation between the carrying amount of the property interests for such Valued Properties as at 31 December 2022 as sets out in Appendix I to this document and the revalued amount of our property interests for such Valued Properties as at 31 March 2023.

RMB'000

Carrying amount of our Valued Properties as at 31 December 2022	
as sets out in Appendix I to this document	267,200
Less: Net valuation changes as at 31 March 2023	(2,450)
Valuation as at 31 March 2023	264,750

Save and except for the Valued Properties, our Directors confirmed that as at 31 March 2023, no single property interest of ours for property activities had a carrying amount above 1% of our total assets and the total carrying amount of property interests not valued did not exceed 10% of our total assets.