

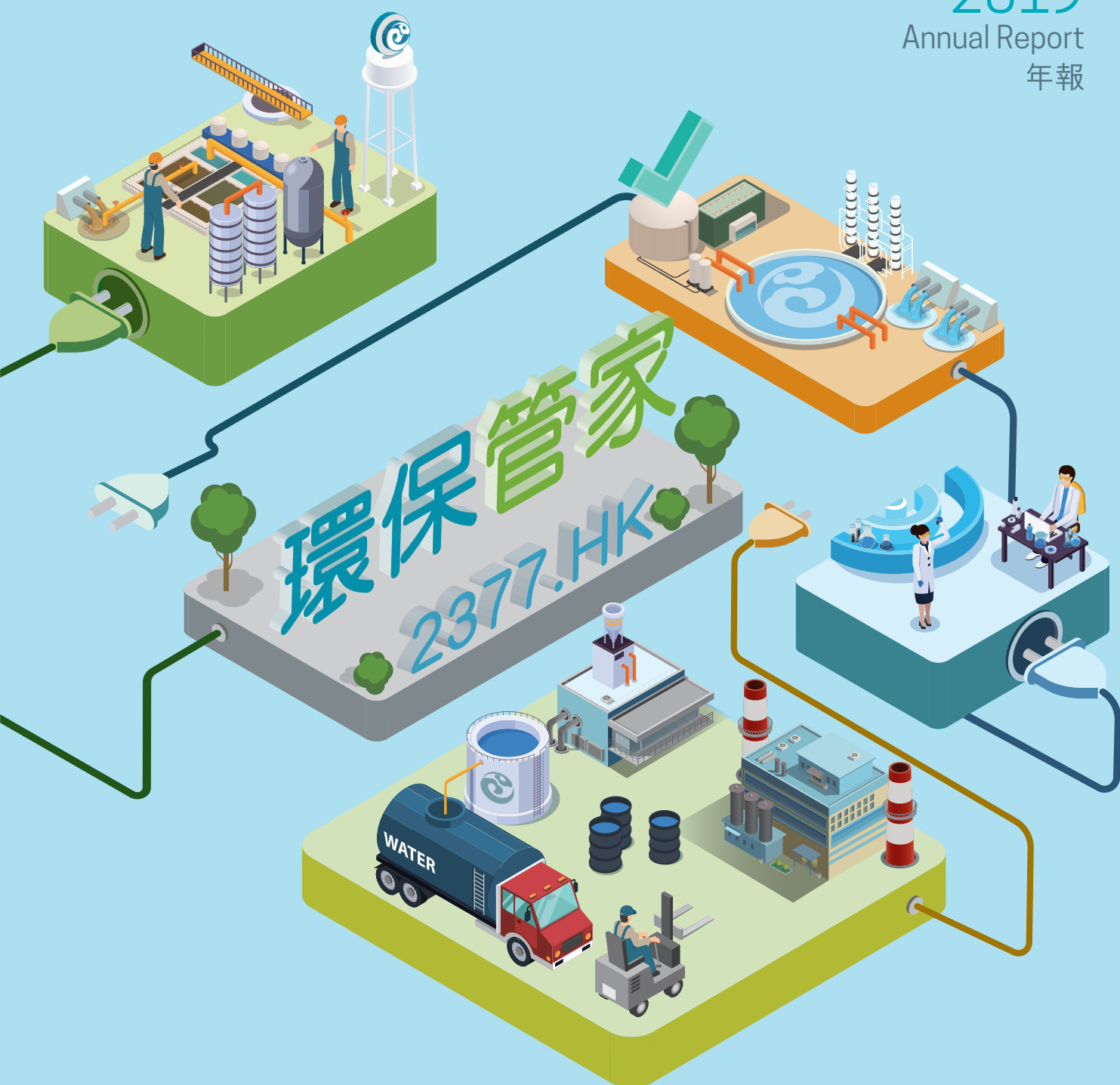
中国博奇环保(控股)有限公司

China Boqi Environmental (Holding) Co., Ltd.

(Incorporated in the Cayman Islands with limited liability)
(於開曼群島註冊成立的有限公司)

Stock Code 股份代號 : 2377

2019
Annual Report
年報



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Corporate Information

公司資料

BOARD OF DIRECTORS

Executive Directors

Cheng Liquan Richard (*Chairman*)
Zeng Zhijun

Non-Executive Directors

Zheng Tony Tuo
Zhu Weihang
Chen Xue

Independent Non-Executive Directors

Liu Genyu
Xie Guozhong
Lu Zhifang

AUDIT COMMITTEE

Xie Guozhong (*Chairman*)
Zheng Tony Tuo
Liu Genyu

REMUNERATION COMMITTEE

Lu Zhifang (*Chairman*)
Zeng Zhijun
Liu Genyu

NOMINATION COMMITTEE

Cheng Liquan Richard (*Chairman*)
Xie Guozhong
Lu Zhifang

JOINT COMPANY SECRETARIES

Qian Xiaoning
Wong Wai Ling

AUTHORIZED REPRESENTATIVES

Zeng Zhijun
Wong Wai Ling

AUDITOR

Deloitte Touche Tohmatsu
Certified Public Accountants
Registered Public Interest Entity Auditors
35/F, One Pacific Place
88 Queensway, Hong Kong

董事會

執行董事

程里全 (*主席*)
曾之俊

非執行董事

鄭拓
朱偉航
陳學

獨立非執行董事

劉根鈺
謝國忠
陸志芳

審核委員會

謝國忠 (*主席*)
鄭拓
劉根鈺

薪酬委員會

陸志芳 (*主席*)
曾之俊
劉根鈺

提名委員會

程里全 (*主席*)
謝國忠
陸志芳

聯席公司秘書

錢曉寧
黃慧玲

授權代表

曾之俊
黃慧玲

核數師

德勤•關黃陳方會計師行
執業會計師
註冊公眾利益實體核數師
香港金鐘道88號
太古廣場一座35樓

**REGISTERED OFFICE**

PO Box 309, Ugland House
Grand Cayman KY1-1104
Cayman Islands

PLACE OF BUSINESS IN HONG KONG

40/F, Sunlight Tower
248 Queen's Road East
Wanchai, Hong Kong

HEADQUARTERS IN THE PRC

11/F, R & F Center
63 East 3rd Ring Road Middle
Chaoyang District
Beijing, the PRC

COMPLIANCE ADVISER

CMB International Capital Limited
45/F, Champion Tower
3 Garden Road, Central, Hong Kong

LEGAL ADVISERS

as to Hong Kong law
William Ji & Co. LLP
in Association with
Tian Yuan Law Firm Hong Kong Office
Suite 702, 7/F, Two Chinachem Central
26 Des Voeux Road Central
Central, Hong Kong

As to PRC law
Commerce & Finance Law Offices
6/F, NCI Tower
A12 Jianguomenwai Avenue
Beijing 100022
the PRC

As to Cayman Islands Law
Maples and Calder (Hong Kong) LLP
53rd Floor, The Center
99 Queen's Road Central
Hong Kong

註冊辦事處

PO Box 309, Ugland House
Grand Cayman KY1-1104
Cayman Islands

香港營業地點

香港灣仔
皇后大道東248號
陽光中心40樓

中國主要辦事處

中國北京市
朝陽區
東三環中路63號
富力中心11樓

合規顧問

招銀國際融資有限公司
香港中環花園道3號
冠君大廈45樓

法律顧問

有關香港法律
紀曉東律師行(有限法律責任合夥)
與
北京市天元律師事務所香港分所聯營
香港中環
德輔道中26號
華懋中心二期7樓702室

有關中國法律
通商律師事務所
中國北京市建國門外
大街甲12號
新華保險大廈6層
郵編100022

有關開曼群島法律
邁普達律師事務所(香港)有限法律責任合夥
香港
皇后大道中99號
中環中心53樓



Corporate Information (Continued)

公司資料 (續)

PRINCIPAL SHARE REGISTRAR AND TRANSFER OFFICE

Maples Fund Services (Cayman) Limited
PO Box 1093
Boundary Hall
Cricket Square, Grand Cayman
KY1-1102, Cayman Islands

HONG KONG BRANCH SHARE REGISTRAR

Tricor Investor Services Limited
Level 54, Hopewell Centre
183 Queen's Road East
Hong Kong

PRINCIPAL BANKERS

China Construction Bank, Chaoyang Branch
China Minsheng Bank, Aoyuncun Branch
China CITIC Bank, Beichen Branch
Jiangsu Bank, Xuanwumen Branch
China Merchants Bank, Jianguo Road Branch
Bank of China (Hong Kong) Limited

STOCK CODE AND BOARD LOT

Stock Code:

2377

Board Lot:

1,000 shares

INVESTOR RELATIONS AND COMMUNICATIONS

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+86 10 5957 9509
Fax: +86 10 5957 9900 – 001
Website: www.chinaboqi.com
Email: irhk@chinaboqi.com

主要股份過戶登記處

Maples Fund Services (Cayman) Limited
PO Box 1093
Boundary Hall
Cricket Square, Grand Cayman
KY1-1102, Cayman Islands

香港股份過戶登記處分處

卓佳證券登記有限公司
香港
皇后大道東183號
合和中心54樓

主要往來銀行

中國建設銀行朝陽支行
中國民生銀行奧運村支行
中信銀行北辰支行
江蘇銀行宣武門支行
招商銀行建國路支行
中國銀行(香港)有限公司

股份代號及買賣單位

股份代號：

2377

買賣單位：

1,000股

投資者關係與聯絡

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ANNUAL RESULTS HIGHLIGHTS

For the year ended 31 December 2019, the revenue of the Company and its subsidiaries (the “**Group**”) amounted to RMB1,836 million, representing an increase of 5.2% as compared with last year.

For the year ended 31 December 2019, the gross profit of the Group amounted to RMB307 million and the gross profit margin of the Group was 16.7%, representing a decrease of 3.5% and 1.5 percentage points as compared with last year, respectively.

For the year ended 31 December 2019, the net profit of the Group amounted to RMB183 million. Excluding the gain from change in fair value of convertible ordinary shares for 2018, the net profit of the Group for 2019 would have decreased RMB76 million as compared to 2018, representing a decrease of 29.3%, mainly attributable to (i) the decrease in gross profit of the environmental protection facilities engineering and O&M sectors; (ii) the decrease in foreign exchange gains as compared to the same period last year; and (iii) the increase in R&D expenses as compared to the same period last year.

As of 31 December 2019, the newly signed contracts of the Group amounted to RMB1,624 million, of which the total value of contracts entered for environmental protection facilities engineering projects (including desulfurization, denitrification and dust removal projects) was RMB525 million.

As of 31 December 2019, the Group had 19 O&M projects under operation and has successfully expanded its O&M business to the steel, coking and industrial sewage sectors; and cumulatively undertook 9 concession operation projects and all of which have been under operation smoothly.

In 2019, the Group acquired a sewage treatment center in Shanxi Lubao Industrial Park at a cash consideration of RMB300 million.

The board (the “**Board**”) of directors (the “**Directors**”) of the Company recommend the payment of HK\$0.0315 per ordinary share as final dividend for the year ended 31 December 2019 (2018: HK\$0.09).

年度業績摘要

截至2019年12月31日止年度，本集團及其附屬公司（「**本集團**」）的收益為人民幣1,836百萬元，較去年增長5.2%。

截至2019年12月31日止年度，本集團的毛利為人民幣307百萬元及本集團的毛利率為16.7%，較去年分別減少3.5%及1.5個百分點。

截至2019年12月31日止年度，本集團的純利為人民幣183百萬元，剔除2018年可轉換普通股公允價值變動的收益，2019年較2018年淨利同口徑減少76百萬元，減少29.3%。主要由於(i)環保設施工程和運行維護板塊毛利潤額減少；(ii)匯兌收益比上年同期減少；及(iii)研發開支較上年同期增加。

於2019年12月31日，本集團新訂約人民幣1,624百萬元，其中環保設施工程項目（包括脫硫，脫硝及除塵項目）的合約總值為人民幣525百萬元。

於2019年12月31日，本集團有19個投運的運維項目，並成功將運維業務拓展至鋼鐵、焦化及工業污水領域；累計執行9個特許經營項目，均已順利投運。

2019年度，本集團收購山西潞寶工業園污水處理中心，現金代價為人民幣300百萬元。

本公司董事（「**董事**」）會（「**董事會**」）已建議宣派截至2019年12月31日止年度之末期股息每股普通股0.0315港元（2018年：0.09港元）。



FINANCIAL AND OPERATION HIGHLIGHTS (Continued)

財務及營運摘要 (續)

The following table sets forth the Company's consolidated statements of profit or loss and other comprehensive income for the periods indicated:

下表載列所示期間本公司的綜合損益及其他全面收益表：

		Year ended 31 December 截至12月31日止年度				
		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元	2017 2017年 RMB'000 人民幣千元	2016 2016年 RMB'000 人民幣千元	2015 2015年 RMB'000 人民幣千元
Revenue	收益	1,836,496	1,744,998	1,329,078	1,352,955	1,351,416
Cost of sales and services	銷售及服務成本	(1,529,974)	(1,427,140)	(1,031,836)	(1,099,309)	(1,105,660)
Gross profit	毛利	306,522	317,858	297,242	253,646	245,756
Other income expense and other gains and losses	其他收入、開支及其他收益及虧損	25,436	117,456	26,017	28,397	(5,495)
Selling and distribution expenses	銷售及分銷開支	(29,295)	(26,170)	(18,318)	(15,859)	(11,376)
Administrative expenses	行政開支	(88,776)	(98,485)	(80,688)	(68,449)	(57,424)
Research and development expenses	研發開支	(24,256)	(10,618)	(8,204)	(3,927)	(5,465)
Reversal of impairment losses on financial assets and contract assets	金融資產及合約資產的減值虧損撥回	(10,928)	(3,816)	10,158	-	-
Share of profit of an associate	分佔聯營公司溢利	34,541	27,963	31,694	14,833	16,042
Finance costs	財務成本	(4,177)	(5,900)	(5,333)	(6,043)	(7,087)
Change in fair value of convertible ordinary shares	可轉換普通股之公允價值變動	-	133,541	(233,228)	-	-
Listing expenses	上市開支	-	(3,319)	(14,114)	(9,141)	-
Profit before tax	除稅前溢利	209,067	448,510	5,226	193,457	174,951
Income tax expense	所得稅開支	(26,453)	(55,691)	(42,255)	(41,416)	(36,781)
Profit for the year	年內溢利	182,614	392,819	(37,029)	152,041	138,170
Other comprehensive (expense) income for the year:	年內其他全面(開支)收益:					
Items that will not be reclassified to profit or loss:	不會重新分類至損益的項目:					
Fair value losses on investments in equity instrument at fair value through other comprehensive income	按公允價值計入其他全面收益的股本工具投資的公允價值虧損	(2,374)	(5,460)	-	-	-
Income tax relating to investments in equity instrument at fair value through other comprehensive income	有關按公允價值計入其他全面收益的股本工具投資的所得稅	171	819	-	-	-
		(2,203)	(4,641)	-	-	-



		Year ended 31 December 截至12月31日止年度				
		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元	2017 2017年 RMB'000 人民幣千元	2016 2016年 RMB'000 人民幣千元	2015 2015年 RMB'000 人民幣千元
Total comprehensive income (expense) for the year	年內全面收入／(開支) 總額	180,411	388,178	(31,080)	148,981	140,074
Profit (loss) for the year attributable to:	以下應佔年內溢利／(虧損)：					
Owners of the Company	本公司擁有人	182,537	394,359	(36,418)	152,041	137,585
Non-controlling interests	非控股權益	77	(1,540)	(611)	-	585
		182,614	392,819	(37,029)	152,041	138,170
Total comprehensive income (expense) for the year attributable to:	以下應佔年內全面收入／(開支) 總額：					
Owners of the Company	本公司擁有人	180,334	389,718	(30,469)	148,981	139,489
Non-controlling interests	非控股權益	77	(1,540)	(611)	-	585
		180,411	388,178	(31,080)	148,981	140,074
Earnings (loss) per share	每股盈利／(虧損)					
- Basic (RMB)	- 基本 (人民幣)	0.18	0.44	(0.08)	0.25	0.23
- Diluted (RMB)	- 攤薄 (人民幣)	0.18	0.27	(0.08)	0.25	N/A不適用



FINANCIAL AND OPERATION HIGHLIGHTS (Continued)

財務及營運摘要 (續)

The following table sets forth selected items from the Company's consolidated statements of financial position as at the dates indicated:

下表載列於所示日期本公司綜合財務狀況表的選定項目：

		Year ended 31 December				
		截至12月31日止年度				
		2019	2018	2017	2016	2015
		2019年	2018年	2017年	2016年	2015年
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
ASSETS	資產					
Total non-current assets	非流動資產總額	1,774,408	1,253,016	1,148,815	706,450	484,626
Total current assets	流動資產總額	2,222,644	2,277,234	1,695,867	1,635,406	1,683,298
Total assets	資產總額	3,997,052	3,530,250	2,844,682	2,341,856	2,167,924
LIABILITIES AND EQUITY	負債及權益					
Total current liabilities	流動負債總額	1,711,841	1,337,058	1,309,524	1,277,711	1,021,386
Total non-current liabilities	非流動負債總額	11,053	20,018	782,129	47,000	67,000
Total equity	權益總額	2,274,158	2,173,174	753,029	1,017,145	1,079,538
Total liabilities and equity	負債及權益總額	3,997,052	3,530,250	2,844,682	2,341,856	2,167,924

Note: There is no restatement of prior years financial information upon application of IFRS 9 and IFRS 15 as at 1 January 2018 and IFRS 16 as at 1 January 2019.

附註：於2019年1月1日應用國際財務報告準則第16號及於2018年1月1日應用國際財務報告準則第9號及國際財務報告準則第15號時，無重述過往年度財務資料。



The following table sets forth a summary of the consolidated statements of cash flows for the periods indicated: 下表載列所示期間綜合現金流量表概要：

		At 31 December				
		截至12月31日止年度				
		2019	2018	2017	2016	2015
		2019年	2018年	2017年	2016年	2015年
		RMB million	RMB million	RMB million	RMB million	RMB million
		人民幣百萬元	人民幣百萬元	人民幣百萬元	人民幣百萬元	人民幣百萬元
Net cash from operating activities	經營活動所得現金淨額	123	85	265	110	171
Net cash (used in) from investing activities	投資活動(所用)所得現金淨額	(439)	(376)	38	(318)	(35)
Net cash (used in) from financing activities	融資活動(所用)所得現金淨額	(15)	369	58	28	(139)



Chairman's Statement

主席報告書

Dear Shareholders,

The year of 2019 saw a slowdown in the global economic growth, when the international trade tensions continued and trade volumes among the world's major economies declined. Against this backdrop, the downward pressure on China's economic growth has increased and the capital market has undergone reform and opening up. Nevertheless, China's economy has generally maintained a steady and progressive growth trend. Celebrating its 70th anniversary in 2019 after 70 years of vicissitudes and changes, the People's Republic of China has become the world's second largest economy. Its comprehensive national strength and international influence have both reached an unprecedented level.

With the continuous improvement of the country's economic level, there has been a rising concern on the environmental protection industry by the state and the public. The government has implemented a number of favorable policies and positioned the environmental protection industry as a strategic emerging industry. In 2019, the state's environmental protection efforts continued unabated and the environmental protection industry has been gradually picking up. With the support of the state's policies, the financing stress faced by environmental protection enterprises has been alleviated to a certain extent and the investment in the industry will further increase in the future.

2019 is a year of aggressive and proactive transformation for the Group. The Group has newly acquired flue gas treatment projects in the steel, industrial furnace and coking sectors, continued to expand the flue gas treatment business in the non-electricity sectors and has also acquired a sewage treatment center in Shanxi Lubao Industrial Park at a cash consideration of RMB300 million, laying a foundation for the development of new business of industrial sewage treatment in the future. The Group has also actively developed its solid waste treatment business, so as to maintain a sustainable and long-term development of the Group. In 2019, the Group achieved an operating income of RMB1,836 million and a net profit of RMB183 million. The Group has a stable financial position with sufficient cash flow, while its various business segments are reasonably deployed and undergoing a sustainable development.

尊敬的各位股東：

2019年全球經濟增速放緩，國際貿易局勢持續緊張，世界主要經濟體的貿易往來下降。在此背景下，中國經濟增速下行壓力加大，資本市場進行改革開放，但總體保持平穩、穩中有進的態勢。2019年正值新中國成立70週年，滄桑巨變七十載，中國成為世界第二大經濟體，綜合國力和國際影響力實現歷史性跨越。

隨著國家經濟水平的不斷提升，國家和社會公眾對環保行業的關注逐漸增長，政府先後出台多項利好政策，並將環保產業定位為戰略性新興產業。2019年國家環保力度持續不減，環保行業逐步回暖，在政策的支持下，環保企業融資緊張的情況得到一定程度的緩解，未來行業投資額將進一步提升。

2019年是本集團銳意進取、積極轉型的一年。本集團新增鋼鐵、工業爐窯、焦化領域煙氣治理項目，繼續擴大非電領域煙氣治理業務，且以現金代價人民幣300百萬元收購山西潞寶工業園污水處理中心，奠定未來發展工業污水處理新領域的基礎，並積極發展固廢處理業務，保持集團持續長久發展。2019年實現營業收入人民幣1,836百萬元，實現淨利潤人民幣183百萬元，集團財務狀況穩健，現金流充裕，各業務板塊佈局合理，持續發展。



After much twists and turns in the environmental protection industry in 2020, the industry is bound to weather difficult times and ushers in a bright prospect. The industrial development is becoming increasingly mature and a large-scale regulation regime on water, soil, solid waste and gas has basically taken shape. Facing the end of the “Thirteenth Five-Year Plan” in 2020, the demand for environmental governance is still strong, thus forming a huge driving force for the environmental protection industry. The Group will continue to take the responsibility of environmental protection, actively explore business opportunities and strive to promote the mutual development of its core and new businesses so as to achieve a substantial growth.

On behalf of the Board of Directors, I would like to sincerely thank our shareholders, customers and business partners for their continuous support to the Group, and also express my sincere gratitude to all the management and employees for their dedicated hard work.

Cheng Liqun Richard*Chairman*

27 April 2020

2020年環保行業歷經曲折之後，勢必凜冬將盡，暖陽歸來。產業發展日益成熟，水土固廢氣的大監管格局已基本形成，2020年面臨「十三五」規劃收官，環境治理需求依然旺盛，這將給環保行業帶來巨大的推動力。本集團將繼續以環境保護為己任，積極探索，努力推動主營業務與新業務共同發展，實現跨越式增長。

本人僅代表董事會對一直支持本集團的股東、客戶、合作夥伴；對一直為集團付出辛勤工作和努力的全體管理層及員工致以衷心感謝。

程里全*主席*

2020年4月27日



Chief Executive Officer's Statement

行政總裁報告書

Dear Shareholders,

Everything survives in harmony with each other and thrives with its own support. Bearing this law of nature in mind, the Chinese government regards the construction of ecological civilization as an important part of its “13th Five-Year Plan”. Under the guidance of relevant national industrial policies, the policies for environmental protection industry have shifted from entirety to refining over the years and the general regulatory pattern in respect of water, soil, solid waste and flue gas has been gradually formed. As the environmental protection market has become increasingly mature, the industry has completed the point-line-plane evolution process and entered the development process from quantitative change to qualitative change. Against this backdrop, the Group has continued to grasp the new trends in the environmental protection market and strategically focused on the environmental protection sub-sectors based on its own corporate characteristics. In 2019, the Group reshaped its positioning and make deployments in the fields of flue gas treatment, industrial sewage treatment and hazardous and solid waste treatment/disposal in non-electricity sectors. As such, the Group will continue to provide comprehensive one-stop environmental governance services to industrial customers and strive to become a platform-based intelligent “environmental housekeeper” for customers.

尊敬的各位股東：

「萬物各得其和以生，各得其養以成」，中國把生態文明建設作為「十三五」規劃內的重要內容，多年來在國家相關產業政策的引導下，環保產業已從政策播種時代進入到全面的政策深耕時代，水、土、固、廢氣的大監管格局也逐漸成形。環保市場的日益成熟，已經完成了點—線—面的演變過程，進入從量變到質變的發展歷程。在此背景下，本集團持續把握環保市場新動向，結合自身企業特點戰略聚焦環保細分領域。2019年，集團重塑定位，積極佈局非電領域的煙氣處理、工業污水處理及危固廢處理處置領域，繼續向工業客戶提供全方位的一站式環境綜合治理服務，並努力將我們打造成為客戶的平台化智能型的「環保管家」。



Looking back on the year, the Group's flue gas treatment business continued to develop robustly, and orders for the flue gas treatment market in non-electricity sectors increased steadily. After successfully expanding into the steel, petrochemical and electrolytic aluminum markets, our environmental protection facility engineering business unit has also opened a new market for the industrial furnace and kiln flue gas treatment sub-sector, and successfully entered into a lime kiln project with Hebei Jinxi Africa Metal Mine Industry Co., Ltd. In the meantime, the Group successfully embedded the service concept of "EPC+O&M" (environmental protection facility engineering + operation and maintenance) into the services for customers in non-electricity sectors, and actively promoted the "intelligent O&M" full-process operation and maintenance service system, which has greatly enhanced the turnover rate of long-term customers in the steel and coking industries. The above strategies have not only improved the business capability of the Group's O&M team, but also created a stable and continuous revenue source for the Group and helped to drive its sustainable development.

During the year under review, the Group entered into a contract on the flue gas desulfurization and denitrification project for the LUCKY 1 x 660MW coal-fired power station in Pakistan, which was the Group's another breakthrough in the overseas market in response to China's "Belt and Road" and "China-Pakistan Economic Corridor" policy initiatives. As of 31 December 2019, the Group's overseas desulfurization units have accumulated a capacity of 5,710MW.

回顧本年度，本集團煙氣治理業務持續穩健發展，非電領域煙氣治理市場訂單穩定增加。環保設施工程業務繼續成功開拓鋼鐵、石化和電解鋁市場後，又打開了工業爐窯煙氣治理細分領域的新市場，成功簽署河北津西非金屬礦工業有限公司石灰窯項目。同時，集團將「EPC+O&M」(環保設施工程+運行維護)的服務理念成功嵌入非電領域客戶的服務內，積極推進「智慧運維」全流程運行維護服務體系，大大增加了鋼鐵和焦化等行業長期客戶的轉化率，不僅提升了集團運維團隊業務能力水平，也為集團創造了穩定持續收益，助力集團可持續發展。

回顧本年度，集團新簽約了巴基斯坦LUCKY 1x 660MW燃煤電站煙氣脫硫脫硝項目，這是本集團響應國家「一帶一路」和「中巴經濟走廊」政策，在海外市場取得的又一突破，截至2019年12月31日，本集團海外脫硫機組容量累計達到5,710MW。



Chief Executive Officer's Statement (Continued)

行政總裁報告書（續）

On the other hand, the Group successfully acquired the assets of a sewage treatment center in Shanxi Lubao Industrial Park in the year and practically entered a new business field. Using this as an entry point, the Group has quickly cultivated an elite team of environmental protection services in the field of industrial sewage treatment, thus opening a new chapter of the Group's strategic development. Meanwhile, the Group has continued to increase investment in technology research and development and actively pursued cooperation with strategic partners in the industry who shares our vision, in order to supplement the Group's technology industry chain, continuously enhance its core competitiveness and increase its technique and technology reserves.

Looking forward, the Group will continue to expand its market share in flue gas treatment in non-electricity sectors such as steel, petrochemical and electrolytic aluminum, and continue to increase its investment in technology research and development in multiple business areas including "industrial sewage treatment", "hazardous and solid waste treatment/disposal" and "VOC treatment". The Group will also optimize its resource allocation, strengthen its management, reduce redundancy and improve efficiency, not only aiming to become an all-round service provider of intelligent green housekeeping in multiple fields, but also striving to create a professional, leading and sustainable world class comprehensive environmental industry group.

Zeng Zhijun

Chief Executive Officer

27 April 2020

回顧本年度，本集團成功收購了山西潞寶工業污水處理中心資產，正式進入新業務領域，並將以此作為切入點，迅速培植出工業污水處理領域環保服務的精英團隊，開啟集團戰略發展的新篇章。同時，本集團持續加大技術研發投入，積極尋求了行業內志同道合的戰略夥伴，以補充集團技術產業鏈，不斷提升集團核心競爭力，增加技術和工藝儲備。

展望未來，本集團將繼續擴大鋼鐵、石化、電解鋁等非電領域煙氣治理市場佔有率，持續加大「工業污水處理」、「危固廢處理處置」、「VOC治理」等多重業務領域的市場及技術研發投入；優化集團資源配置，加強管理，減冗餘，提效率，為打造成為多領域全方位智能型環保管家而努力，為實現專業、領先、持續發展的國際一流綜合環境產業集團而拼搏。

曾之俊

行政總裁

2020年4月27日



The Group is a leading enterprise in the ecological and environmental governance industry in China and was successfully listed on the Main Board of The Stock Exchange of Hong Kong Limited on 16 March 2018 (stock code: 2377). The Group provides environmental protection and energy conservation solutions to its customers, mainly engaging in controlling air pollution in traditional electricity and non-electricity sectors and providing comprehensive air pollution prevention services such as flue gas desulfurization, denitrification, dust removal and integrated flue gas treatment services. The Group commenced the flue gas treatment business in 2003 and is among the first participants in the flue gas treatment industry in China. In 2019, the Group continued to expand its flue gas treatment market in non-electricity industries such as steel, petrochemicals and electrolytic aluminum and successfully developed its industrial sewage treatment business, as well as actively participated in solid waste treatment business. Leveraging on its solid experience and professional capabilities in R&D and design, construction and implementation, operation and management, the Group has helped its clients to greatly reduce pollutant emissions and effectively improve their production efficiency, making remarkable contributions to the improvement of air quality and environment quality, development of green economy and sustainability. The Group is committed to becoming a world-class comprehensive group in the environmental protection industry and a service provider of intelligent green housekeeping, thus actively contributing to environmental protection and ecological civilization construction in China as well as the world.

The projects of the Group have a broad geographic coverage, covering almost 30 provinces, municipalities and autonomous regions in China. Furthermore, the Group started to expand its business into the overseas markets in 2007, ahead of most of our competitors. In particular, the Group has undertaken more than 10 quality desulfurization and denitrification projects in Europe, South Asia, Latin America, Africa and Southeast Asia, and is one of the few PRC companies having successfully completed thermal power environmental protection projects in overseas markets. Besides, the Group has advanced R&D equipment and facilities and has also established a professional R&D team. The Group has established an enterprise technology center which was accredited by the Beijing Municipality Commission of Economic and Information Technology and a post-doctoral research station with Nankai University. In recent years, the Group has established strategic partnerships with world-renowned multinational companies and has entered into extensive science and research cooperation with domestic and overseas research institutes for proactively seeking technology development.

本集團是中國生態環境治理行業的領軍企業，於2018年3月16日成功在香港聯合交易所有限公司主板上市，股票代碼：2377。本集團向客戶提供環保及節能解決方案，主要處理傳統電力及非電領域的大氣污染控制，全面提供煙氣脫硫、脫硝、除塵以及綜合煙氣處理等大氣污染防治服務。本集團於2003年開始經營煙氣處理業務，是中國煙氣處理的首批參與者。2019年，本集團繼續擴大鋼鐵、石化、電解鋁等非電行業煙氣治理市場，成功開拓工業污水處理業務，並積極參與固廢處理業務。憑藉其研發與設計、建設與運行、經營與管理的豐富經驗及專業能力，大大降低污染物的排放量並有效提高客戶生產效率，為提高空氣質量、環境質量、發展綠色經濟和可持續發展做出了傑出貢獻。本集團致力於打造成為國際一流的綜合性環保產業集團及智能型環保管家服務提供商，為中國乃至世界的環境保護和生態文明建設做出積極的貢獻。

本集團的項目地理覆蓋範圍廣泛，遍及中國近30個省、市及自治區。不但如此，本集團於2007年在眾多競爭對手中率先佈局海外市場。具體而言，本集團已先後承接位於歐洲、南亞、拉丁美洲、非洲及東南亞等十餘項高質量的脫硫脫硝項目，是少數成功完成海外火電環保項目的中國公司之一。此外，本集團擁有先進的研發設備及設施和專業的研發隊伍。本集團設有北京市經濟和信息化委員會認定的企業技術中心及南開大學的企業博士後科研工作站。近年來，本集團已與世界知名的跨國公司建立戰略夥伴關係，並於國內外研究機構開展廣泛的科研合，積極推進技術發展。



Directors and Senior Management

董事及高級管理層

DIRECTORS

董事

The Board currently consists of eight Directors, comprising two executive Directors, three non-executive Directors and three independent non-executive Directors. The following table sets forth information regarding the Directors.

董事會現有八位董事，包括兩位執行董事、三位非執行董事及三位獨立非執行董事。下表載列有關董事的資料。

Name 姓名	Age 年齡	Position 職位	Date of Appointment as Director 獲委任為董事日期
Executive Directors 執行董事			
Mr. Cheng Liquan Richard (程里全) 程里全先生	54	Chairman and executive Director 董事長及執行董事	30 January 2015 2015年1月30日
Mr. Zeng Zhijun (曾之俊) 曾之俊先生	49	Vice Chairman, executive Director, chief executive officer 副董事長、執行董事及行政總裁	30 January 2015 2015年1月30日
Non-executive Directors 非執行董事			
Mr. Zheng Tony Tuo (鄭拓) 鄭拓先生	51	Non-executive Director 非執行董事	30 January 2015 2015年1月30日
Mr. Zhu Weihang (朱偉航) 朱偉航先生	33	Non-executive Director 非執行董事	9 January 2017 2017年1月9日
Mr. Chen Xue (陳學) 陳學先生	53	Non-executive Director 非執行董事	9 January 2017 2017年1月9日
Independent non-executive Directors 獨立非執行董事			
Mr. Liu Genyu (劉根鈺) 劉根鈺先生	56	Independent non-executive Director 獨立非執行董事	28 February 2018 2018年2月28日
Dr. Xie Guozhong (謝國忠) 謝國忠博士	59	Independent non-executive Director 獨立非執行董事	28 February 2018 2018年2月28日
Mr. Lu Zhifang (陸志芳) 陸志芳先生	66	Independent non-executive Director 獨立非執行董事	28 February 2018 2018年2月28日



EXECUTIVE DIRECTORS

Mr. Cheng Liquan Richard (程里全) (“Mr. Cheng”), aged 54, is the chairman of the Board, an executive Director and the chairman of the Nomination Committee of the Company. Mr. Cheng is primarily responsible for the overall strategic planning and direction of the Group. Mr. Cheng was appointed to the Board on 30 January 2015.

Mr. Cheng joined the Group serving as a director of Beijing Boqi Electric Power SCI-TECH Co., Ltd.* (北京博奇電力科技有限公司) (“Beijing Boqi”), the major operating subsidiary of the Group, on 15 June 2005. Mr. Cheng became the chairman of the board of Beijing Boqi in December 2007 and then served as its chief executive officer from December 2009 to February 2017. Mr. Cheng currently serves as the general manager of Beijing Boqi, a director of Beijing Shengyi Tiancheng Environmental SCI-TECH Co., Ltd.* (北京聖邑天成環保科技有限公司) (“Beijing Shengyi”), Zhejiang Boqi Electric Power SCI-TECH Co., Ltd.* (浙江博奇電力科技有限公司) (“Zhejiang Boqi”) and Anhui Nengda Fuel Co., Ltd.* (安徽能達燃料有限公司) (“Anhui Nengda”). Prior to joining the Group, Mr. Cheng held various positions at Bit Technology Holding Co., Ltd.* (比特科技控股股份有限公司), a company that was principally engaged in the wholesale of spare parts for power plants, from April 2000 to March 2003, including deputy manager, general manager, the chairman of the board and a director. Mr. Cheng has been a director of Ningbo Bonded Area Jiujiu Leasing Co. Ltd.* (寧波保稅區久久租賃有限公司) (previously known as Ningbo Huaneng Leasing Co. Ltd.* (寧波華能租賃有限公司)) (“Ningbo Leasing”) from 2004 to 2007.

Mr. Cheng graduated from Fudan University with a bachelor's degree in political economy in July 1987.

執行董事

程里全先生 (「程先生」)，54歲，為本公司董事會主席、執行董事及提名委員會主席。程先生主要負責本集團整體策略規劃及引導。程先生於2015年1月30日獲委任加入董事會。

程先生於2005年6月15日加入本集團，擔任本集團主要營運附屬公司北京博奇電力科技有限公司 (「北京博奇」) 的董事。程先生於2007年12月成為北京博奇的董事會主席，隨後自2009年12月至2017年2月間亦擔任北京博奇的行政總裁。程先生目前亦擔任北京博奇的總經理、北京聖邑天成環保科技有限公司 (「北京聖邑」)、浙江博奇電力科技有限公司 (「浙江博奇」) 及安徽能達燃料有限公司 (「安徽能達」) 的董事。加入本集團前，程先生自2000年4月至2003年3月於主要從事批發發電廠備件的公司比特科技控股股份有限公司擔任多個職務，包括副經理、總經理、董事會主席及董事。程先生自2004年至2007年為寧波保稅區久久租賃有限公司 (「寧波租賃」，前稱寧波華能租賃有限公司) 的董事。

程先生於1987年7月獲得復旦大學政治經濟學士學位。



Directors and Senior Management (Continued)

董事及高級管理層（續）

From June 2010 to September 2014, Mr. Cheng served as a director of Wuhan Boch Jaco Environmental Co., Ltd* (武漢博奇玉宇環保股份有限公司) (National Equities Exchange and Quotations Stock Code: 831100). From August 2011 to March 2017, Mr. Cheng was a director of Shanghai ZJ Bio-Tech Co., Ltd* (上海之江生物科技股份有限公司) (National Equities Exchange and Quotations Stock Code: 834839). Save as disclosed above, Mr. Cheng did not hold directorships in any listed public companies in the last three years.

Mr. Zeng Zhijun (曾之俊) (“Mr. Zeng”), aged 49, is the vice chairman, an executive Director, the chief executive officer and a member of the Remuneration Committee of the Company. Mr. Zeng is responsible for the overall management and operation of the Group. Mr. Zeng was appointed to the Board on 30 January 2015. Mr. Zeng joined the Group in June 2004 serving as a director of Beijing Boqi and became the vice chairman of Beijing Boqi in June 2007. Mr. Zeng currently serves as the vice chairman and the chief executive officer of Beijing Boqi. Mr. Zeng served as the chairman of Beijing Horizon Media Group Inc.* (北京華亞和訊科技有限公司) from December 2002 to October 2004. Since April 2016, Mr. Zeng has served as a director of Wuxi Zhonggan Microelectronics Co., Ltd. (無錫中感微電子股份有限公司).

Mr. Zeng graduated from Beijing Institute of Technology (北京理工大學) with a bachelor's degree in computer science and engineering in July 1992. Mr. Zeng received a master's degree in business administration from Massachusetts Institute of Technology in June 2001. Mr. Zeng was awarded the degree of Doctor of Management from The Hong Kong Polytechnic University on 3 November 2010.

Since February 2005, Mr. Zeng has served as a director of Richinfo Technology Co., Ltd.* (彩訊科技股份有限公司) (formerly known as Shenzhen Richinfo Technology Co., Ltd.* (深圳市彩訊科技有限公司)) (a listed company on the Shenzhen Stock Exchange since 23 March 2018, stock code: 300634.SZ), a company that provides mobile Internet technology services in the PRC. Save as disclosed above, Mr. Zeng did not hold directorships in any public listed companies in the last three years.

於2010年6月至2014年9月，程先生於武漢博奇玉宇環保股份有限公司（全國中小企業股份轉讓系統股份號碼：831100）擔任董事。自2011年8月起至2017年3月，程先生為上海之江生物科技股份有限公司（全國中小企業股份轉讓系統股份號碼：834839）的董事。除上文所披露者外，程先生在過去三年並無於任何上市公司擔任董事職務。

曾之俊先生（「曾先生」），49歲，本公司副董事長、執行董事、行政總裁及薪酬委員會成員。曾先生負責本集團整體管理及運營。曾先生於2015年1月30日獲委任加入董事會。曾先生於2004年6月加入本集團，擔任北京博奇的董事，並於2007年6月成為北京博奇的副董事長。曾先生目前擔任北京博奇的副董事長兼行政總裁。於2002年12月至2004年10月，曾先生擔任北京華亞和訊科技有限公司董事長。曾先生自2016年4月起擔任無錫中感微電子股份有限公司的董事。

曾先生於1992年7月獲得北京理工大學計算機科學及工程學士學位。曾先生於2001年6月獲得麻省理工學院工商管理碩士學位。曾先生於2010年11月3日獲授香港理工大學管理學博士學位。

自2005年2月起，曾先生擔任彩訊科技股份有限公司（前稱深圳市彩訊科技有限公司，一間自2018年3月23日起於深圳證券交易所上市的公司（股票代碼：300634.SZ）董事，該公司於中國提供移動互聯網技術服務。除上文所披露者外，曾先生在過去三年並無於任何上市公司擔任董事職務。



NON-EXECUTIVE DIRECTORS

Mr. Zheng Tony Tuo (鄭拓) (“Mr. Zheng”), aged 51, is a non-executive Director and a member of the Audit Committee of the Company. Mr. Zheng also served as a director of Beijing Boqi. Mr. Zheng was appointed to the Board on 30 January 2015.

From May 2011 to August 2016, Mr. Zheng served as a director of CITIC Securities International Asset Management Limited (中信證券國際資產管理有限公司), a private company incorporated in Hong Kong. In 2008, Mr. Zheng established MTP Capital Limited, a company that provides investment related consulting services, where he is mainly responsible for the overall management and operation of the company. From September 2000 to March 2010, Mr. Zheng was a director of Compass Venture (China) Limited, a private company incorporated in Hong Kong.

Mr. Zheng received a bachelor’s degree in science from McMaster University in Canada in June 1992.

Mr. Zheng did not hold directorships in any public listed companies in the last three years.

Mr. Zhu Weihang (朱偉航) (“Mr. Zhu”), aged 33, is a non-executive Director of the Company. Mr. Zhu was appointed to the Board on 9 January 2017. Mr. Zhu also served as a director of Beijing Boqi.

非執行董事

鄭拓先生 (「鄭先生」)，51歲，為本公司非執行董事及審核委員會成員。鄭先生亦擔任北京博奇的董事。鄭先生於2015年1月30日獲委任加入董事會。

於2011年5月至2016年8月期間，鄭先生擔任中信證券國際資產管理有限公司（一間於香港註冊成立的私人公司）之董事。鄭先生於2008年創辦MTP Capital Limited，該公司提供投資相關諮詢服務，彼主要負責該公司整體管理及營運。於2000年9月至2010年3月期間，鄭先生擔任Compass Venture (China) Limited（一間於香港註冊成立的私人公司）之董事。

鄭先生於1992年6月獲得加拿大麥克馬斯特大學理學學士學位。

鄭先生在過去三年並無於任何上市公司擔任董事職務。

朱偉航先生 (「朱先生」)，33歲，為本公司非執行董事。朱先生於2017年1月9日獲委任加入董事會。朱先生亦擔任北京博奇的董事。



Directors and Senior Management (Continued)

董事及高級管理層（續）

Mr. Zhu is currently the chairman of Guangdong Pearl River Investment Co., Ltd.* (廣東珠江投資股份有限公司), where he is fully responsible for the company's strategic planning, major investment and production management. Mr. Zhu has been working at Guangdong Pearl River Investment Co., Ltd.* (廣東珠江投資股份有限公司) since September 2008, where he has held various positions in its different branch companies. From September 2008 to September 2011, Mr. Zhu worked at the Guangdong Pearl River Investment Co., Ltd. Finance Management Center* (廣東珠江投資股份有限公司融資管理中心) where he held positions as a financing chief executive, assistant to the director, deputy director and director. From October 2011 to September 2012, Mr. Zhu worked at the North China branch office of Guangdong Pearl River Investment Co., Ltd. (廣東珠江投資股份有限公司) as the deputy general manager and the standing deputy general manager.

Mr. Zhu graduated from Sun Yat-sen University (中山大學) with a bachelor's degree in finance in June 2012.

Mr. Zhu did not hold directorships in any public listed companies in the last three years.

Mr. Chen Xue (陳學) ("Mr. Chen"), aged 53, is a non-executive Director of the Company. Mr. Chen was appointed to the Board on 9 January 2017. Mr. Chen also served as a director of Beijing Boqi.

朱先生現任廣東珠江投資股份有限公司董事長，全面負責公司戰略規劃、重大投資和生產經營管理等工作。朱先生自2008年9月起於廣東珠江投資股份有限公司任職並於不同的分公司擔任多個職位。於2008年9月至2011年9月，朱先生於廣東珠江投資股份有限公司融資管理中心任職，擔任融資事務主管、總監助理、副總監及總監。於2011年10月至2012年9月，朱先生於廣東珠江投資股份有限公司華北地區公司任職，擔任副總經理及常務副總經理。

朱先生於2012年6月自中山大學畢業，獲金融學學士學位。

朱先生在過去三年並無於任何上市公司擔任董事職務。

陳學先生（「陳先生」），53歲，為本公司非執行董事。陳先生於2017年1月9日獲委任加入董事會。陳先生亦擔任北京博奇的董事。



Mr. Chen has served as deputy general manager of the finance department of Sinopec Group (中國石油化工集團公司) since December 2019. From January 2018 to December 2019, Mr. Chen was the deputy head of the capital operation department of Sinopec Group (中國石油化工集團公司) and deputy general manager of Asset Operation and Management Company Limited (資產經營管理有限公司) under Sinopec Group. From March 2001 to January 2018, Mr. Chen was the deputy division chief and division chief of various departments and divisions of Sinopec Group (中國石油化工集團公司) including the restructuring department, department of enterprise reform, operation management department of refining and chemical enterprises, capital operation department and the asset management company. Mr. Chen worked at China Sinopec Great Wall Lubricating Oil Limited (中國石化長城潤滑油公司) (an integrated lubricating oil service provider in the PRC) from July 1989 to March 2001. In 2013, Mr. Chen was recognized as professor-level senior economist by the Senior Professional Technical Qualification Appraisal Committee of Sinopec Group (中國石油化工集團公司). In January 2018, Mr. Chen was the deputy head of the capital operation department of Sinopec Group (中國石油化工集團公司) and deputy general manager of Asset Operation and Management Company Limited (資產經營管理有限公司). He was mainly responsible for the capital operation, safety and environmental protection management.

Mr. Chen received his bachelor's degree in petroleum processing from East China College of Chemistry and Technology (華東化工學院) (now known as East China University of Science and Technology (華東理工大學)) in July 1989. Mr. Chen received his master's degree in management from Renmin University of China (中國人民大學) in June 2001.

Mr. Chen did not hold directorships in any listed public companies in the last three years.

自2019年12月，陳先生擔任中國石油化工集團公司財務部副總經理。自2018年1月至2019年12月，陳先生擔任中國石化集團公司資本運營部副主任、中國石化集團資產經營管理有限公司副總經理。自2001年3月至2018年1月，陳先生為中國石油化工集團公司多個部門及分部的副處長及處長，包括重組辦、企業改革部、煉化企業經營部、資本運營部及資產管理公司。陳先生於1989年7月至2001年3月於中國石化長城潤滑油公司（中國綜合潤滑油服務提供商）任職。於2013年，陳先生獲中國石油化工集團公司高級專業技術職務任職資格評審委員會評選為教授級高級經濟師。於2018年1月，任中國石油化工集團公司資本運營部副主任、資產經營管理有限公司副總經理，主要負責資本運作、安全環保管理工作。

陳先生於1989年7月獲華東化工學院（現稱華東理工大學）石油加工學士學位。於2001年6月，陳先生獲中國人民大學企業管理學碩士學位。

陳先生在過去三年並無於任何上市公司擔任董事職務。



Directors and Senior Management (Continued)

董事及高級管理層（續）

INDEPENDENT NON-EXECUTIVE DIRECTORS

Mr. Liu Genyu (劉根鈺) (“Mr. Liu”), aged 56, is an independent non-executive Director and a member of the Remuneration Committee and Audit Committee of the Company. He was appointed to the Board on 28 February 2018. Mr. Liu does not hold any other position with the members of the Group.

Mr. Liu is currently a non-executive director of Huazhong In-vehicle Holdings Company Limited (華眾車載控股有限公司), a Stock Exchange listed company (stock code: 6830) manufactures and sells internal and external decorative and structural automobile parts, molds and tooling, casing and liquid tank of air conditioning or heater units and other non-automobile products. Mr. Liu currently serves as an executive director and vice chairman of China Nuclear Energy Technology Corporation Limited (中國核能科技集團有限公司), a listed company on the Stock Exchange (stock code: 611) engages in EPC operations and consulting services, solar power generation operations and financing operations.

Mr. Liu has extensive experience in project development, commercial negotiation and operational management in the electric power industry. During the period from May 2007 to December 2012, Mr. Liu was the chief executive officer as well as an executive director, a member of the executive committee and the authorized representative of China Power New Energy Development Company Limited (中國電力新能源發展有限公司), a Stock Exchange listed company (stock code: 735) that engages in developing, constructing, owning, operating and managing clean energy power plants. Prior to that, Mr. Liu served as the vice president of Chongqing Jiulong Electric Power Co., Ltd* (重慶九龍電力股份有限公司) (principally engaged in electric power production), a company listed on the Shanghai Stock Exchange (stock code: 600292), and he was mainly responsible for construction projects and market management.

獨立非執行董事

劉根鈺先生（「劉先生」），56歲，為本公司獨立非執行董事及薪酬委員會及審核委員會成員。彼於2018年2月28日獲委任加入董事會。劉先生並無於本集團成員公司擔任任何其他職務。

劉先生現為華眾車載控股有限公司的非執行董事。該公司於聯交所上市（股份代號：6830），從事製造及出售汽車內部和外部裝飾及結構部件、模具及工具、空調或暖氣機組外殼及儲液罐和其他非汽車產品。劉先生現為中國核能科技集團有限公司的執行董事及副董事長。該公司為一間聯交所上市公司（股份代號：611），從事EPC業務及諮詢服務、太陽能發電業務及融資業務。

劉先生於電力行業的項目開發、商務談判及營運管理擁有豐富的經驗。劉先生於2007年5月至2012年12月期間在中國電力新能源發展有限公司（一間從事開發、建造、擁有、營運和管理潔淨能源發電廠業務的聯交所上市公司，股份代號：735）工作，擔任行政總裁、執行董事、執行委員會成員和授權代表。在此之前，劉先生出任重慶九龍電力股份有限公司（一間於上海證券交易所上市並主要從事發電業務的公司，股票代碼：600292）的副總裁，主要負責建造項目及市場管理。



Mr. Liu received his bachelor's degree in industrial electric automation from Harbin Institute of Technology in June 1991. Mr. Liu was awarded an executive master's degree in business administration (EMBA) from Tsinghua University in July 2005.

Save as disclosed above, Mr. Liu did not hold directorships in any listed public companies in the last three years.

Dr. Xie Guozhong (謝國忠) ("Dr. Xie"), aged 59, is an independent non-executive Director, the chairman of the Audit Committee and a member of the Nomination Committee of the Company. He was appointed to the Board on 28 February 2018. Dr. Xie does not hold any other position with the members of the Group.

Dr. Xie is an independent economist based in the PRC and is a columnist for publications including South China Morning Post, The New Century Weekly (renamed as Caixin) and Bloomberg where he published his articles analyzing and consulting on global economics and financial markets. Dr. Xie was named as one of the "50 most influential persons in finance" by Bloomberg in 2013. Dr. Xie has 20 years expertise in financial services and has extensive financial management experience in the fields of corporate finance. From December 2007 to December 2010, Dr. Xie served as an independent non-executive director of Shenzhen Development Bank Co., Ltd* (深圳發展銀行股份有限公司), which was listed on the Shenzhen Stock Exchange (stock code: 000001). Dr. Xie worked for Morgan Stanley from July 1997 to September 2006 and held the role of managing director. He was working in the capacity of a managing director in the research division of Morgan Stanley in Hong Kong before his departure. Prior to joining Morgan Stanley, Dr. Xie worked for Macquarie Bank in Singapore as an associate director from 1995 to 1997.

劉先生於1991年6月獲得哈爾濱工業大學工業電氣自動化學士學位，並於2005年7月獲得清華大學高級管理人員工商管理碩士學位(EMBA)。

除上文所披露者外，劉先生在過去三年內並無於任何上市公司擔任董事職務。

謝國忠博士 (「謝博士」)，59歲，為本公司獨立非執行董事、審核委員會主席及提名委員會成員。彼於2018年2月28日獲委任加入董事會。謝博士並無於本集團的成員公司擔任任何其他職務。

謝博士為中國獨立經濟學家，且為《南華早報》、《新世紀》周刊(更名《財新》)及彭博新聞社的專欄作家。彼於彭博新聞社刊載分析及討論全球經濟及金融市場的文章。謝博士於2013年獲得彭博新聞社提名為財經界「50位最具影響力人物」之一。謝博士於金融服務方面擁有20年的專業知識並於企業融資領域亦有豐富的財務管理經驗。於2007年12月至2010年12月，謝博士擔任深圳發展銀行股份有限公司(於深圳證券交易所上市，股票代碼：000001)的獨立非執行董事。謝博士於1997年7月至2006年9月任職摩根士丹利，擔任董事總經理。彼於離任前擔任摩根士丹利香港研究部董事總經理。於加入摩根士丹利前，謝博士自1995年至1997年於新加坡麥格理銀行擔任聯席董事。



Directors and Senior Management (Continued)

董事及高級管理層（續）

Dr. Xie received his master's degree of science in transportation and a PhD in Philosophy (in the field of economics) from Massachusetts Institute of Technology in September 1987 and June 1990, respectively.

Dr. Xie did not hold directorships in any listed public companies in the last three years.

Mr. Lu Zhifang (陸志芳) (“Mr. Lu”), aged 66, is an independent non-executive Director, the chairman of the Remuneration Committee and a member of the Nomination Committee of the Company. He was appointed to the Board on 28 February 2018. Mr. Lu does not hold any other position with the members of the Group.

Mr. Lu is a registered lawyer in China, and is currently a senior partner of East & Concord Partners (北京天達共和律師事務所). Mr. Lu was a senior partner of Haiwen Law Firm (海問律師事務所) from 1994 to 2008 and a partner of Beijing Hylands Law Firm (北京浩天信和律師事務所) from 2009 to 2014. Mr. Lu also has more than 20 years experience in international commercial arbitration, which, among others, he served as an arbitrator of China International Economic and Trade Arbitration Commission. From 1991 to 1994, Mr. Lu worked at the law school of University of International Business and Economics as an associate professor, and served as deputy director of the International Economic Law Department of University of International Business and Economics from 1986 to 1994.

Mr. Lu graduated from Beijing University of International Business and Economics (北京對外貿易學院) with a diploma in English in January 1978, and received his master's degree in laws from the University of California in December 1983.

Mr. Lu did not hold directorships in any listed public companies in the last three years.

於1987年9月及1990年6月，謝博士分別取得麻省理工學院的交通運輸學碩士學位及哲學（經濟學領域）博士學位。

謝博士在過去三年並無於任何上市公司擔任董事職務。

陸志芳先生（「陸先生」），66歲，為本公司獨立非執行董事、薪酬委員會主席及提名委員會成員。彼於2018年2月28日獲委任加入董事會。陸先生並無於本集團的成員公司擔任任何其他職務。

陸先生為中國註冊律師，現為北京天達共和律師事務所資深合夥人。陸先生於1994到2008年為海問律師事務所資深合夥人，2009年到2014年為北京浩天信和律師事務所合夥人。陸先生於國際商事仲裁擁有逾20年經驗，曾擔任過中國國際經濟貿易仲裁委員會的仲裁員。陸先生於1991年至1994年期間在對外經濟貿易大學法學院擔任副教授，並曾於1986年至1994年任對外經貿大學國際經濟法系副主任。

陸先生於1978年1月獲得北京對外貿易學院英文文憑，及於1983年12月獲得加利福尼亞大學法律碩士學位。

陸先生在過去三年並無於任何上市公司擔任董事職務。



SENIOR MANAGEMENT

高級管理層

The following table presents certain information concerning the senior management of our Group.

下表呈列有關本集團高級管理層人員的若干資料。

Name 姓名	Age 年齡	Year Joined 加入年份	Position 職位
Ms. Cao Xiaoping (曹曉萍) 曹曉萍女士	66	2008 2008年	Vice president and chief financial officer 副總裁兼財務總監
Mr. Zhang Kongyu (張孔瑜) 張孔瑜先生	58	2010 2010年	Vice president and chief technology officer 副總裁兼技術總監
Mr. Yan Bingli (顏炳利) 顏炳利先生	56	2004 2004年	Vice president 副總裁
Mr. Ma Xuexiang (馬學祥) 馬學祥先生	65	2012 2012年	Vice president 副總裁
Ms. Qian Xiaoning (錢曉寧) 錢曉寧女士	46	2007 2007年	Vice president, Board secretary and joint company secretary 副總裁、董事會秘書兼聯席公司秘書
Mr. Liu Qingbo (劉青波) 劉青波先生	46	2004 2004年	Vice president 副總裁
Mr. Lu Jing (陸景) 陸景先生	58	2011 2011年	Vice president 副總裁
Ms. Ma Zhuo (馬卓) 馬卓女士	45	2006 2006年	Vice president 副總裁
Ms. Yan Zhilian (閔芝蓮) 閔芝蓮女士	61	2004 2004年	Vice president 副總裁
Mr. Tu Yazhou 屠亞洲先生	48	2019 2019年	Vice president 副總裁

Ms. Cao Xiaoping (曹曉萍) (“Ms. Cao”), aged 66, is the vice president and chief financial officer of the Company. Ms. Cao joined the Group in June 2008. Ms. Cao was appointed as the chief financial officer of the Group in March 2010.

曹曉萍女士 (「曹女士」)，66歲，為本公司副總裁兼財務總監。曹女士於2008年6月加入本集團。於2010年3月，曹女士獲委任為本集團財務總監。

Ms. Cao is primarily responsible for finance and accounting, budget and investment related matters of the Group. Ms. Cao also serves as the chairman of Jiangxi Jinggangshan Boqi Environmental Technology Co., Ltd.* (江西井岡山博奇環保科技有限公司) (“Jinggangshan Boqi”), a director of Shanxi Bo Yuan Qi Cheng Environmental Equipment Service Co., Ltd.* (山西博源奇晟環保設備服務有限公司) (“Shanxi Bo Yuan”) and the chairman of Beijing Boqi Environmental Remediation Tech Co. Ltd* (北京博奇環境修復科技有限公司).

曹女士主要負責本集團財務及會計、預算制定及投資相關事宜。曹女士亦擔任江西井岡山博奇環保科技有限公司 (「井岡山博奇」) 之主席、山西博源奇晟環保設備服務有限公司 (「山西博源」) 之董事及北京博奇環境修復科技有限公司之主席。



Directors and Senior Management (Continued)

董事及高級管理層（續）

Ms. Cao has over 30 years of experience in accounting and financial management. Prior to joining the Group, Ms. Cao served as the chief accountant of Angang Construction Consortium Co., Ltd (鞍鋼建設集團有限公司) from November 2000 to June 2008. Ms. Cao was the deputy section chief (副科長) of the finance department of Ansteel Group Corporation (鞍鋼集團) and later served as the deputy director and director from February 1985 to November 2000.

Ms. Cao graduated from Dongbei University of Finance and Economics (東北財經大學) with a master's degree in accounting in March 1999. She became a qualified senior accountant in the PRC in December 1997.

Ms. Cao did not hold directorship in any listed public company in the last three years.

Mr. Zhang Kongyu (張孔瑜) (“Mr. Zhang”), aged 58, is the vice president and chief technology officer of the Company and joined the Group in March 2010. Mr. Zhang started as the vice chief engineer with Beijing Boqi and later was appointed as the vice president and a technical director, the general manager of department of research and development and the general manager of department of production and technology of Beijing Boqi. Mr. Zhang is mainly responsible for technology development, introduction and technology cooperation and responsible for overall technology strategy the Company. For positions with other members of the Group, Mr. Zhang serves as the general manager of Beijing Shengyi and as the supervisor of Beijing Boqi and Zhejiang Boqi.

Prior to joining the Group, Mr. Zhang was the chief engineer of Shanghai Nature Power Technology Co. Ltd (上海納泉電力科技有限公司) from January 2004 to February 2010. During the period from July 2000 to June 2003, Mr. Zhang was the technical director of SEC-IHI Power Generation Environment Protection Engineering Co., Ltd* (上海石川島脫硫工程公司). Mr. Zhang served as director of design of Shanghai Future Environment Engineering Co., Ltd.* (上海未來環境工程有限公司) from January 1995 to July 2000. Mr. Zhang served as the design engineer of Shanghai Metallurgy Mining Machinery Factory* (上海冶金礦山機械廠) from 1989 to 1995. Mr. Zhang also served as a technician of Shanghai Petrochemical General Factory* (上海石油化工總廠) from 1987 to 1989.

曹女士於會計及財務管理方面逾30年經驗。於加入本集團之前，曹女士於2000年11月至2008年6月期間擔任鞍鋼建設集團有限公司之總會計師。曹女士於1985年2月至2000年11月期間擔任鞍鋼集團之財務部副科長，其後擔任副處長及處長。

曹女士於1999年3月獲得東北財經大學會計碩士學位。曹女士於1997年12月成為中國高級會計師。

曹女士在過去三年並無於任何上市公司擔任董事職務。

張孔瑜先生（「張先生」），58歲，為本公司副總裁及技術總監並於2010年3月加入本集團。張先生於北京博奇擔任副總工程師，其後獲委任為北京博奇的副總裁及技術總監、研發部總經理和生產及技術部總經理。張先生主要負責本公司技術開發及引進以及技術合作事宜，並負責整體技術策略。張先生於本集團其他成員公司的職位包括北京聖邑之總經理及北京博奇及浙江博奇之監事。

張先生於加入本集團之前，於2004年1月至2010年2月期間擔任上海納泉電力科技有限公司總工程師。張先生於2000年7月至2003年6月期間擔任上海石川島脫硫工程公司的技術主管。張先生於1995年1月至2000年7月期間擔任上海未來環境工程有限公司的設計主管。張先生於1989年至1995年期間擔任上海冶金礦山機械廠的設計工程師。張先生亦於1987年至1989年期間擔任上海石油化工總廠的技術員。



Mr. Zhang graduated from Shanghai University of Technology with a bachelor's degree in mechanical manufacturing in 1983.

張先生於1983年獲得上海工業大學機械設計學士學位。

Mr. Zhang did not hold directorships in any listed public companies in the last three years.

張先生在過去三年並無於任何上市公司擔任董事職務。

Mr. Zhang has resigned as effective from 31 July 2019.

張先生已於2019年7月31日離職。

Mr. Yan Bingli (顏炳利) (“Mr. Yan”), aged 56, is the vice president of the Company and joined the Group in October 2004. Since joining the Group, Mr. Yan has held various positions including the engineer of department of engineering and the general manager of Yangcheng project, a project director, the general manager of department of operation and maintenance, the general manager of department of sales and marketing and the general manager of department of operational planning and information management of Beijing Boqi. Mr. Yan is primarily responsible for operational planning, information management and internal control of the Company. Mr. Yan does not hold any other position with the members of the Group.

顏炳利先生 (「顏先生」)，56歲，為本公司副總裁並於2004年10月加入本集團。自加入本集團以來，顏先生歷任北京博奇的多個職位，包括工程部工程師及陽城項目總經理、項目總監、運營和維護部總經理、市場營銷部總經理和經營計劃部和信息管理部總經理。顏先生主要負責本公司經營計劃、信息管理及內部監控。顏先生並無於本集團其他成員公司擔任任何其他職務。

Mr. Yan obtained the diploma in power engineering management in Northeast Dianli University (東北電力學院) in April 1998.

顏先生於1998年4月取得了東北電力學院電力管理工程文憑。

Mr. Yan did not hold directorships in any listed public companies in the last three years.

顏先生在過去三年並無於任何上市公司擔任董事職務。

Mr. Ma Xuexiang (馬學祥) (“Mr. Ma”), aged 65, is the vice president of the Company and joined the Group in August 2012. Mr. Ma is primarily responsible for overseeing project construction and managing quality and safety. Prior to joining the Group, Mr. Ma was the chief operation officer, the assistant general manager and minister of the department of engineering of Angang Steel Construction Group Company Ltd. (鞍鋼建設集團有限公司), from November 2000 to August 2012, where he was mainly responsible for managing project construction and managing project quality and safety. Mr. Ma joined Angang Group (No. 2) Construction Corporation* (鞍鋼集團第二建築工程公司) in May 1983, and has held various positions including technician, team leader and assistant manager and general manager between 1983 and 2000. Mr. Ma has also served as a technician of People's Liberation Army Corps of Engineers infrastructure 002 troops (中國人民解放軍基建工程兵002部隊) since December 1972.

馬學祥先生 (「馬先生」)，65歲，為本公司副總裁並於2012年8月加入本集團。馬先生主要負責監督項目建設和安全質量管理。於加入本集團之前，馬先生於2000年11月至2012年8月期間擔任鞍鋼建設集團有限公司之總調度長、助理總經理和工程部部长，主要負責管理項目建設以及管理項目質量及安全。馬先生於1983年5月加入鞍鋼集團第二建築工程公司，並於1983年至2000年期間擔任不同職位，包括技術員、隊長及副經理和總經理。馬先生自1972年12月亦為中國人民解放軍基建工程兵002部隊技術員。



Directors and Senior Management (Continued)

董事及高級管理層（續）

Mr. Ma obtained the diploma in cogenerating from the Changchun Metallurgical Construction School* (長春冶金建築學校) in September 1977.

Mr. Ma did not hold directorships in any listed public companies in the last three years.

Ms. Qian Xiaoning (錢曉寧) (“Ms. Qian”), aged 46, is the vice president, Board secretary and joint company secretary of the Company and joined the Group in February 2007. Ms. Qian is primarily responsible for managing human resources, legal compliance issues, administration and Board matters. Since joined the Group, Ms. Qian has held various positions including general manager of legal department, general manager of business department of the Board, general manager of human resource department, Board secretary and vice president of Beijing Boqi. Ms. Qian is also a director of Beijing Bosheng Environmental SCI-TECH Co., Ltd.* (北京博聖環保科技有限公司), the supervisor of Shanxi Puzhou Boqi Environmental Technology Co., Ltd.* (山西蒲州博奇環保科技有限公司) (“Puzhou Boqi”), Shanxi Hejin Boqi Environmental Technology Co., Ltd.* (山西河津博奇環保科技有限公司) (“Hejin Boqi”), Anhui Nengda and Jinggangshan Boqi and the general manager of Shanxi Bo Yuan.

Prior to joining the Group, Ms. Qian was a securities transaction representative (證券事務代表) of Yongyou Network Technology Co., Ltd. (用友網絡科技股份有限公司) (previously known as 用友軟件股份有限公司, a listed company on the Shanghai Stock Exchange, stock code: 600588), an enterprise management software and cloud service provider in the PRC, from 2001 to February 2007. During the time from July 1996 to August 1997, Ms. Qian worked at the legal department of CITIC Group (previously known as China International Trust Investment Corporation).

Ms. Qian graduated from China University of Political Science and Law in July 1996 with a bachelor’s degree in economic law. Ms. Qian obtained a master’s degree in economic law from China University of Political Science and Law in June 2006 and a master’s degree in business administration from Chinese University of Hong Kong in December 2010.

馬先生於1977年9月取得長春冶金建築學校的熱電聯產專業課程文憑。

馬先生在過去三年並無於任何上市公司擔任董事職務。

錢曉寧女士（「錢女士」），46歲，為本公司副總裁、董事會秘書兼聯席公司秘書並於2007年2月加入本集團。錢女士主要負責人力資源管理、法律合規事宜、行政管理及董事會事宜。錢女士自加入本集團以來歷任北京博奇的多個職位，包括法律部總經理、董事會業務部總經理、人力資源部部長、董事會秘書及副總裁。錢女士亦為北京博聖環保科技有限公司之董事、山西蒲州博奇環保科技有限公司（「蒲州博奇」）、山西河津博奇環保科技有限公司（「河津博奇」）、安徽能達及井岡山博奇之監事及山西博源之總經理。

於加入本集團之前，錢女士於2001年至2007年2月期間擔任意友網絡科技股份有限公司（前稱用友軟件股份有限公司，一家於上海證券交易所上市的公司，股份代碼：600588）的證券事務代表。該公司是中國企業管理軟件和雲端服務提供商。錢女士於1996年7月至1997年8月期間於中國中信集團（前稱國際信託投資公司）的法律部任職。

錢女士於1996年7月畢業於中國政法大學，持有經濟法學士學位。錢女士於2006年6月獲得中國政法大學經濟法碩士學位，並於2010年12月獲得香港中文大學工商管理碩士學位。



Ms. Qian did not hold directorships in any listed public companies in the last three years.

Mr. Liu Qingbo (劉青波) (“Mr. Liu”), aged 46, is the vice president of the Company and joined the Group in April 2004. Since joining the Group, Mr. Liu has held various positions including the engineer of Environmental Technology Development Center, the debugging manager, a manager of customer training, the minister of department of operation and maintenance project management, the deputy general manager of operation and maintenance center, the general manager of operation and maintenance center and an assistant of president of Beijing Boqi. Mr. Liu is mainly responsible for overseeing the operation and maintenance of projects of the Company. Mr. Liu also serves as a director of Hejin Boqi, Puzhou Boqi and Changjizhou Boqi Environmental Technology Co., Ltd.* (昌吉州博奇環保科技有限公司).

Prior to joining the Group, Mr. Liu was the design engineer of electric control department of Tongfang Shareholding Co., Ltd.* (同方股份有限公司), a provider of environmental consulting solutions in the areas of fuel gas desulfurization, denitrification and dedusting, from July 2001 to April 2004, where Mr. Liu was responsible for designing solutions in relation to fuel gas treatment by way of desulfurization and denitrification.

Mr. Liu graduated from Tsinghua University with a bachelor's degree in thermal energy and power engineering in June 1998, and obtained a master's degree in thermal engineering from Tsinghua University in June 2001.

Mr. Liu did not hold directorships in any listed public companies in the last three years.

Mr. Lu Jing (陸景) (“Mr. Lu”), aged 58, is the vice president of the Company and joined the Group in March 2011. Since joining the Group, Mr. Lu has held various positions including an assistant for the president and the general manager of department of information, the general manager of Jianan subcontracting department (建安分包部), the vice president and the general manager of marketing and sales center of Beijing Boqi. Mr. Lu is primarily responsible for marketing development and sales. Mr. Lu does not hold any other position with the members of the Group.

錢女士在過去三年並無於任何上市公司擔任董事職務。

劉青波先生(「劉先生」)，46歲，為本公司副總裁並於2004年4月加入本集團。加入本集團以來，劉先生歷任北京博奇的多個職位，包括環保技術開發中心工程師、調試經理、客戶培訓專業經理、運維項目管理部部長、運維業務中心、副總經理、運維業務中心總經理及總裁助理。劉先生主要負責監督本公司項目的運營與維護。劉先生亦擔任河津博奇、蒲洲博奇及昌吉州博奇環保科技有限公司的董事。

劉先生於加入本集團之前，於2001年7月至2004年4月期間於同方股份有限公司擔任電力控制部設計工程師，主要負責設計脫硫脫硝燃氣處理方案。該公司主要提供燃氣脫硫脫硝除塵環境諮詢解決方案。

劉先生於1998年6月獲得清華大學熱能及電力工程學士學位，亦於2001年6月獲得清華大學熱能工程碩士學位。

劉先生在過去三年並無於任何上市公司擔任董事職務。

陸景先生(「陸先生」)，58歲，為本公司副總裁並於2011年3月加入本集團。自加入本集團以來，陸先生歷任北京博奇的多個職位，包括總裁助理及信息部總經理、建安分包部總經理、副總裁兼市場營銷中心總經理。陸先生主要負責市場開發及銷售。陸先生並無於本集團其他成員公司擔任任何其他職務。



Directors and Senior Management (Continued)

董事及高級管理層（續）

Prior to joining the Group, for the period from November 2004 to June 2010, Mr. Lu served as an assistant manager of Great Wall Computer Software & Systems Inc* (長城計算機軟件與系統有限公司), a company mainly engaged in information safety business. Mr. Lu also served at the computer room of 57th Institute of the General Staff Council of People's Liberation Army (總參第五十七研究所電腦室) from July 1983.

Mr. Lu obtained a bachelor's degree in applied computer science from PLA Engineering Technology College (人民解放軍工程技術學院) in July 1983.

Mr. Lu did not hold directorships in any listed public companies in the last three years.

Ms. Ma Zhuo (馬卓) (“Ms. Ma”), aged 45, vice president of the Company, joined the Group in March 2006. Since she joined the Group, Ms. Ma served several positions in the Company, such as the general manager of the Operating Planning Department, general manager of the Financial Management Center, deputy director of the tender and supervision committee, general manager of the internal control department, general manager of the President's Office, general manager of the Information Management Department, assistant to the president and vice president. Ms. Ma is primarily responsible for marketing strategy and promotion, brand management and client servicing of the Company. Ms. Ma does not hold any other positions in other members of the Group.

於加入本集團之前，陸先生於2004年11月至2010年6月期間擔任長城計算機軟件與系統有限公司的副經理。該公司從事信息安全業務。陸先生亦於1983年7月起於總參第五十七研究所電腦室工作。

陸先生於1983年7月獲得人民解放軍工程技術學院應用計算機科學專業學士學位。

陸先生在過去三年並無於任何上市公司擔任董事職務。

馬卓女士（「馬女士」），45歲，為本公司副總裁並於2006年3月加入本集團。自加入本集團以來，馬女士歷任本公司多個職位，包括經營企劃部總經理、財務管理中心總經理、招標監管委員會副主任、內控部總經理、總裁辦公室總經理、信息管理部總經理、總裁助理及副總裁。馬女士主要負責本公司營銷策略及推廣、品牌管理及客戶服務。馬女士並無於本集團其他成員公司擔任任何其他職務。



Prior to joining the Group, Ms. Ma worked at the Electricity Business Quality Management Center under the State Electricity Regulatory Commission (國家電力監管委員會電力業務資質管理中心) responsible for the financial auditing of power plants from October 2005 to March 2006. During the period from August 2004 to September 2005, Ms. Ma served as the chief financial officer of Xuji Lianhua International Environmental Engineering Co., Ltd. (許繼聯華國際環境工程有限公司), being responsible for finance, taxation, investment and financing analysis and application for recognition as a High and New Technology Enterprise of the Company. During the period from July 1998 to July 2004, Ms. Ma worked at Beijing Sifang Automation Co., Ltd. (北京四方繼保自動化股份有限公司), a company listed on the Shanghai Stock Exchange (stock code: 601126) mainly engaging in development and research, production, sales and technical service of products for automation of power station, relaying protection, automation of power plants. Ms. Ma served as the senior manager of the finance department, business manager of the market department and general manager of the credit control department respectively, in charge of finance accounting and taxation, regional agents and large customers and contract risks control.

Ms. Ma graduated from North China Electric Power University (華北電力大學) with a bachelor's degree in accounting in July 1998. Ms. Ma obtained a Master Degree of Executive Master of Business Management of Cheung Kong Graduate School of Business in September 2010.

Ms. Ma did not hold any other directorships in any listed public companies in the last three years.

Ms. Yan Zhilian (閻芝蓮) (“Ms. Yan”), aged 61, vice president of the Company, joined the Group in 2004. Since she joined the Group, Ms. Yan served several positions in Beijing Boqi Electric Power SCITECH Co., Ltd. (北京博奇電力科技有限公司), such as the technical director, business manager, general manager of the cost actuary department, general manager of the technical department and assistant to the president. Ms. Yan is primarily responsible for estimation and control of project costs and matters related to project settlement of the Company.

馬女士加入本集團之前，於2005年10月至2006年3月期間於國家電力監管委員會電力業務資質管理中心負責發電廠財務審核工作。馬女士於2004年8月至2005年9月期間於許繼聯華國際環境工程有限公司擔任財務總監，負責該公司財務、稅務、投融資分析和高新技術企業申報等全面工作。馬女士於1998年7月至2004年7月期間於北京四方繼保自動化股份有限公司工作，該公司於上海證券交易所（股票代碼：601126）上市，主要從事電站自動化、繼電保護、發電廠自動化產品的研發、生產、銷售和技術服務。馬女士分別在財務部擔任高級經理分管財務核算及稅務工作，在市場部擔任商務經理分管區域代理商，在信用控制部擔任部門總經理負責大客戶及合同風險管控工作。

馬女士於1998年7月畢業於華北電力大學，持有會計學學士學位。馬女士於2010年9月獲得長江商學院高級管理人員工商管理碩士學位。

馬女士在過去三年並無於任何上市公司擔任任何其他董事職務。

閻芝蓮女士 (「閻女士」)，61歲，為本公司副總裁並於2004年加入本集團。自加入本集團以來，閻女士歷任北京博奇電力科技有限公司多個職位，包括技經主管、商務經理、成本精算部總經理、技經部總經理及總裁助理。閻女士主要負責本公司項目成本的測算及控制，並負責專案結算相關事宜。



Directors and Senior Management (Continued)

董事及高級管理層（續）

Prior to joining the Group, Ms. Yan was the department head of the construction cost department in Liaoning Tianyi Accounting Firm* (遼寧天億會計師事務所) from October 1999 to October 2004, the department head of civil engineering projects of Liaoyang Petrochemical Fiber Company* (遼陽石化纖維公司) from December 1985 to October 1999, and a technician of the Third Construction Company of Liaoning Province* (遼寧省第三建築公司) from December 1977 to December 1985.

Ms. Yan obtained a bachelor's degree in industrial engineering from Fushun Petroleum Institute* (撫順石油學院) in July 1983.

Ms. Yan did not hold any other directorships in any listed companies the last three years.

Mr. Tu Yazhou (“Mr. Tu”), aged 48, vice president of the Company, joined the Group in January 2019. Mr. Tu is mainly responsible for the safety and quality management, engineering construction project tendering and bulk materials and equipment procurement management of the Company. Mr. Tu does not hold any other positions in other members of the Group.

Prior to joining the Group, Mr. Tu served as the deputy general manager of Tongxing Environmental Protection Technology Co., Ltd. from February to December 2018. Mr. Tu was the deputy general manager of Jiangsu Heyichang Environmental Protection Company from May 2011 to January 2018. Mr. Tu was the manager of the engineering department of Xutang Power Generation Co., Ltd.* (徐塘發電有限責任公司) from October 1990 to February 2009.

Mr. Tu graduated from Nanjing School of Power Engineering* (南京電力學校) in 1990 and obtained a bachelor's degree in civil engineering from Southwest University* (西南大學) in 2016.

Mr. Tu did not hold any other directorships in any listed companies in the last three years.

於加入本集團之前，閻女士於1999年10月至2004年10月期間擔任遼寧天億會計師事務所工程造價部負責人。閻女士於1985年12月至1999年10月期間擔任遼陽石化纖維公司土建項目負責人。閻女士自1977年12月至1985年12月期間擔任遼寧省第三建築公司技術員。

閻女士於1983年7月獲得撫順石油學院工業工程專業學士學位。

閻女士在過去三年並無於任何上市公司擔任董事職務。

屠亞洲先生（「屠先生」），48歲，為本公司副總裁並於2019年1月加入本集團。屠先生主要負責本公司安全質量管理、工程建設項目招標以及大宗物資設備採購管理工作。屠先生並無於本集團其他成員公司擔任任何其他職務。

於加入本集團之前，屠先生於2018年2月至12月擔任同興環保科技有限公司副總經理。屠先生於2011年5月至2018年1月期間擔任江蘇和億昌環保公司的副總經理。屠先生於1990年10月至2009年2月期間擔任徐塘發電有限責任公司的工程部經理。

屠先生於1990年畢業於南京電力學校，並於2016年取得西南大學土木工程學士學位。

屠先生在過去三年並無於任何上市公司擔任董事職務。



JOINT COMPANY SECRETARIES

Ms. Qian Xiaoning (錢曉寧), aged 46, is a joint company secretary of our Company. She was appointed as the joint company secretary of the Company on 13 February 2017. Ms. Qian's biographical details are set forth in the paragraph headed "Senior Management" above.

Ms. Wong Wai Ling (黃慧玲) ("Ms. Wong"), is a joint company secretary of our Company. She was appointed as the joint company secretary of the Company on 13 February 2017.

Ms. Wong has over 13 years of experience in providing company secretarial services in Hong Kong. Ms. Wong currently is a vice president of SWCS Corporate Services Group (Hong Kong) Limited and is responsible for assisting listed companies in professional company secretarial work. Prior to joining SWCS Corporate Services Group (Hong Kong) Limited, she worked as the secretarial officer of KCS Hong Kong Limited, a corporate service provider, from May 2008 to February 2011. During the period from July 2003 to May 2008, Ms. Wong worked at Grant Thornton (an international accounting firm). Ms. Wong was admitted as associate of The Hong Kong Institute of Chartered Secretaries and was elected as association of The Institute of Chartered Secretaries and Administrators in the United Kingdom in July 2013.

Ms. Wong was awarded a bachelor's degree of Arts in Marketing and Public Relations from The Hong Kong Polytechnic University (香港理工大學) in October 2007, and obtained a master degree of Corporate Governance degree from The Open University of Hong Kong (香港公開大學) in December 2011.

聯席公司秘書

錢曉寧女士，46歲，為本公司聯席公司秘書，於2017年2月13日獲委任為本公司聯席公司秘書。錢女士的簡歷詳情已載於上文「高級管理層」一段。

黃慧玲女士 (「黃女士」)，為本公司聯席公司秘書，於2017年2月13日獲委任為本公司聯席公司秘書。

黃女士於香港提供公司秘書服務方面擁有逾13年經驗。黃女士現為方圓企業服務集團(香港)有限公司的總監，負責協助上市公司專業的公司秘書工作。於加入方圓企業服務集團(香港)有限公司前，彼於2008年5月至2011年2月擔任企業服務提供商凱譽香港有限公司的秘書主任。於2003年7月至2008年5月期間，黃女士於致同(一間國際會計師事務所)任職。於2013年7月，黃女士獲准加入香港特許秘書公會及英國特許秘書及行政人員公會。

黃女士於2007年10月獲得香港理工大學市場營銷及公共關係文學士學位及於2011年12月獲得香港公開大學企業管治學碩士學位。



Management Discussion and Analysis

管理層討論與分析

The Group has been committed to the development of the environmental protection industry. As an independent flue gas treatment integrated services provider, the Group is principally engaged in the flue gas treatment business, which comprises three segments, namely flue gas desulfurization, flue gas denitrification and dust removal. The Group also provides a full range of comprehensive environmental protection services to various industry enterprises, such as existing coal-fired power plants and enterprises in steel, petrochemical, coking and electrolytic aluminum sectors through various business models including environmental protection facility engineering (“EPC”), operation and maintenance (“O&M”) and concession operations.

According to the statistics from the National Energy Administration, the industrial power generated by power plants above-scale in the PRC increased by 3.5% year-on-year in 2019, which was much lower than the growth rate in 2018, of which thermal power only increased by 1.9%. Therefore, the Group has been vigorously exploring its flue gas treatment business in the non-electricity sectors and tailoring the services of “EPC+O&M” to the actual needs of customers, so as to further expand its market shares in non-electricity sectors such as steel, coking and electrolytic aluminum. Meanwhile, the Group has successfully developed industrial sewage treatment business and actively explored its business in the hazardous and solid waste treatment/disposal sector.

1. INDUSTRY OVERVIEW

In 2019, the environmental protection industry experienced a new situation, with environmental protection policies announced intensively by the central government and local authorities. Efforts on environment protection were further stepped up and a large-scale regulation regime on water, soil, solid waste and gas was basically formed, under which the market forces of third-party governance on pollution were fully mobilized. With the support of national policies, the environmental protection industry will have a further growth in output scale.

本集團一直致力於環境保護事業的發展。作為獨立煙氣處理綜合服務商，本集團主要從事煙氣處理業務，其中包括煙氣脫硫、煙氣脫硝及除塵服務的三個分部，亦通過環保設施工程（「EPC」）、運營與維護（「運維」）和特許經營等多種業務模式向現有燃煤電廠、鋼鐵、石化、焦化、電解鋁等諸多工業企業提供全方位的綜合環保服務。

據國家能源局統計，2019年全國規模以上工業發電量同比增長3.5%，較18年大幅下降，其中火電僅增長1.9%。故此，本集團大力開拓非電行業煙氣處理業務，將EPC+O&M的服務鏈嵌入客戶實際需求，進一步擴大鋼鐵、焦化、電解鋁等非電市場佔有率。同時，成功開拓工業污水處理業務，並積極開拓危固廢處理處置領域業務。

1. 行業概覽

2019年，環保行業進入全新的局面，從中央到地方環保政策密集出台，環保力度進一步加大，水土固廢氣的大監管格局基本形成，充分調動了第三方治理污染的市場活力。在國家政策的支持下，環保行業產值規模將進一步增長。



On 28 April 2019, five government ministries of China, including the Ministry of Ecology and Environment of PRC and the National Development and Reform Commission of PRC, jointly issued the Opinions on Promoting the Implementation of Ultra-low Emissions in the Steel Industry (《關於推進實施鋼鐵行業超低排放的意見》), proposing to enhance policy support in, among other things, taxation, capital, price, finance and environmental protection for enterprises in the steel industry that have completed the transformation for ultra-low emissions, strengthen corporate responsibility, adopt strict evaluation and management, and strengthen supervision and enforcement. By the end of 2020, the key areas shall have made significant progress in the transformation of steel enterprises for ultra-low emissions, and shall strive to complete the transformation of about 60% of the production capacity; by the end of 2025, the key areas should have basically completed the transformation, and the country shall strive to complete more than 80% of the production capacity.

On 17 June 2019, the General Office of the Central Committee of the Communist Party of China (“CPC”) and the General Office of the State Council of PRC issued the Regulations on the Central Government’s Supervision of the Ecological Environmental Protection (《中央生態環境保護督查工作規定》), aiming to standardize the supervision of ecological environmental protection, strictly fulfill the responsibility of ecological environmental protection, promote the construction of ecological civilization and build a beautiful China. Around the corner of the second round of Central Government’s Supervision of the Ecological Environmental Protection, the issue of such regulations further demonstrated the determination of the CPC Central Committee and the State Council of the PRC to strengthen the construction of an ecological civilization and enhance ecological environmental protection efforts. Enterprises in China shall strengthen their governance on various aspects, such as air, water and solid waste, to meet emission standards, further heightening the market demand for the environmental protection industry.

2019年4月28日，中國生態環境部、中國國家發展和改革委員會等五部門聯合發佈《關於推進實施鋼鐵行業超低排放的意見》，提出對完成超低排放改造的鋼鐵行業企業，加大稅收、資金、價格、金融、環保等方面政策支持力度，強化企業主體責任，嚴格評價管理，強化監督執法。到2020年底前，重點區域鋼鐵企業超低排放改造取得明顯進展，力爭60%左右產能完成改造；2025年底前，重點區域基本完成，全國力爭80%以上產能完成改造。

2019年6月17日，中國共產黨中央委員會辦公廳、中國國務院辦公廳印發《中央生態環境保護督查工作規定》，其目的是為了規範生態環境保護督查工作，壓實生態環境保護責任，推進生態文明建設，建設美麗中國。在第二輪中央生態環保督察即將啟動之際，該規定的印發進一步彰顯中國黨中央、國務院加強生態文明建設、加強生態環境保護的決心。各地企業應在大氣、水、固廢等各方面加強治理以滿足達標排放要求，環保行業市場需求將進一步釋放。



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

On 1 July 2019, the Ministry of Ecology and Environment of the PRC issued the Comprehensive Air Pollution Control Plan for Industrial Furnaces and Kilns (《工業爐窯大氣污染綜合治理方案》), stating that while industrial furnaces and kilns are widely used in various industries such as steel, coking, nonferrous metal, building material, petrochemical, chemical engineering and machinery manufacturing and play an important supporting role in industrial development, they are also the main sources of air pollution in the industrial field. The plan requires Chinese local governments to achieve the following targets by 2020: (i) improve the comprehensive control and management system for air pollution from industrial furnaces and kilns; (ii) ensure the industrial furnaces and kilns are fully in compliance with emission standards; (iii) significantly enhance the standard of the related equipment and pollution governance on industrial furnaces and kilns in key areas of air pollution control such as Beijing, Tianjin, Hebei, the Yangtze River Delta and Fenhe and Weihe River Plains; (iv) further reduce the emissions of sulfur dioxide, nitrogen oxides, particulate matter and other pollutants in various industries; (v) facilitate the effective control of the aggregate carbon dioxide emissions from key industries such as steel and building materials; and (vi) promote the continuous improvement of environmental air quality and the high-quality industrial development.

2019年7月1日，中國生態環境部等印發《工業爐窯大氣污染綜合治理方案》，稱工業爐窯廣泛應用於鋼鐵、焦化、有色、建材、石化、化工、機械製造等行業，對工業發展具有重要支撐作用，同時，也是工業領域大氣污染的主要排放源。該方案要求中國各地政府於2020年達到以下目標：(i)完善工業爐窯大氣污染綜合治理管理體系；(ii)推進工業爐窯全面達標排放；(iii)京津冀及周邊地區、長三角地區、汾渭平原等大氣污染防治重點區域工業爐窯裝備和污染治理水平明顯提高；(iv)實現工業行業二氧化硫、氮氧化物、顆粒物等污染物排放進一步下降；(v)促進鋼鐵、建材等重點行業二氧化碳排放總量得到有效控制；及(vi)推動環境空氣質量持續改善和產業高質量發展。



2. BUSINESS OVERVIEW

The Group commenced its flue gas treatment business in 2003 and is among the first independent participants in the flue gas treatment industry in China. The services of the Group cover the entire industry-chain of the flue gas treatment industry, from project design, equipment procurement and facilities construction to operation and maintenance and concession operation of flue gas treatment facilities. In 2019, the Group acquired a sewage treatment center of Shanxi Lubao Industrial Park in China (“**Lubao Sewage Treatment Center**”) and shall successfully begin its industrial sewage treatment business. We are gradually transforming our role from a coordinated flue gas solution provider to the intelligent environmental protection housekeeper in relation to the comprehensive service of flue gas treatment, industrial sewage treatment, hazardous and solid waste treatment/disposal. Moreover, the Group’s business has a broad geographic coverage, reaching nearly 30 provinces, municipalities and autonomous regions in China. Furthermore, the Group has been striving to expand its business overseas, including in Europe, South Asia, Latin America, Africa and Southeast Asia.

2. 業務回顧

本集團於2003年開始經營煙氣處理業務，是中國煙氣處理行業的首批獨立參與者。本集團的服務涵蓋煙氣處理行業的全產業鏈，從項目設計、設備採購及設施建設，到煙氣處理設施的運營與維護以及特許經營業務。於2019年，本集團收購中國山西潞寶工業園污水處理中心（「**潞寶污水處理中心**」），成功開拓工業污水處理業務。本集團正逐步實現由煙氣環保協同方案提供商向集煙氣處理、工業污水處理、危固廢處理處置等多領域全方位智慧型環保管家服務轉變。此外，本集團的項目地理覆蓋範圍廣泛，遍及中國近30個省、市及自治區。同時，我們一直努力擴展海外包括歐洲、南亞、拉丁美洲、非洲及東南亞業務。



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

The following map shows the distribution of the projects of the Group within the PRC as of 31 December 2019:

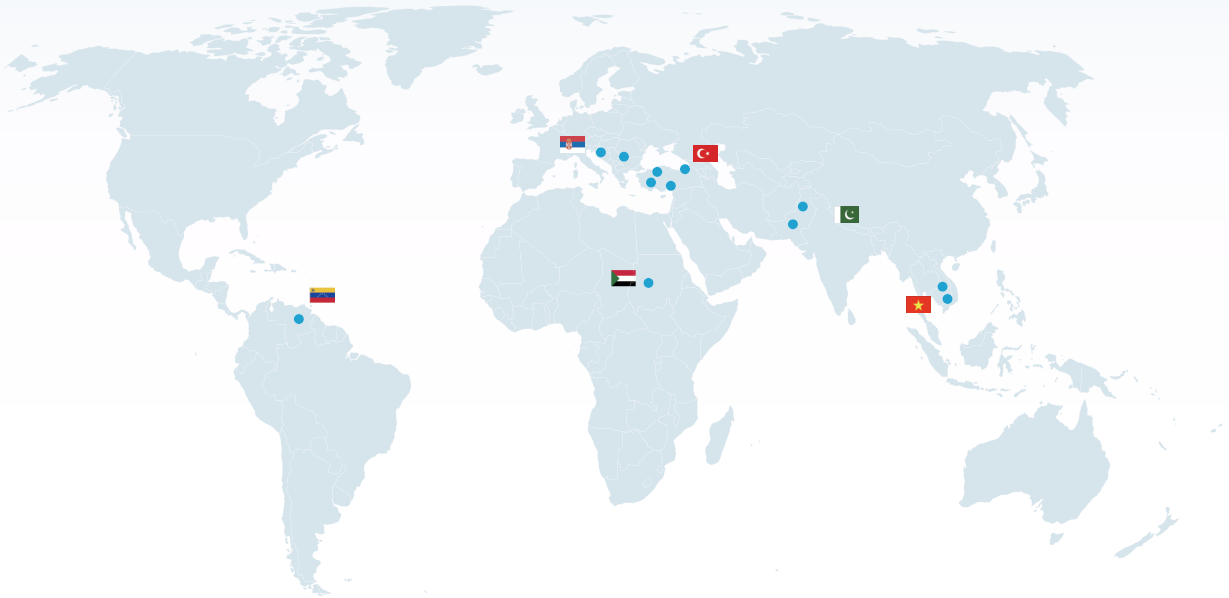
下圖列示於2019年12月31日，本集團在中國境內的項目分佈：





As of 31 December 2019, the Group had also executed, or had been implementing, over ten projects in regions outside the PRC, such as Europe, South Asia, Latin America, Africa and Southeast Asia. As of 31 December 2019, the Group's overseas desulfurization units have accumulated a capacity of 5,710MW.

The following map shows the distribution of the projects of the Group outside the PRC as of 31 December 2019:



As an integrated environmental protection services provider, the Group also provides its services through various business models including EPC, Q&M and concession operations (including “**Build-Operate-Transfer**” or “**BOT**”, and “**Build-Own-Operate**” or “**BOO**”).

於2019年12月31日，本集團於中國境外地區（例如歐洲、南亞、拉丁美洲、非洲及東南亞）亦已進行或正進行十逾個項目。於2019年12月31日，本集團海外脫硫機組容量累計達到5,710MW。

下圖列示於2019年12月31日，本集團在中國境外的項目分佈：

作為獨立環保綜合服務提供者，本集團亦通過EPC、運維和特許經營（包括「**建設－運營－轉讓**」或「**BOT**」以及「**建設－擁有－運營**」或「**BOO**」）等多種業務模式提供服務。



EPC

A typical EPC business model involves project design, procurement of equipment and materials, project construction and equipment installment services in relation to SO₂ or NO_x emission control and dust removal primarily for power plants, aluminum factories, steel factories and chemical plants. The Group acts as the main contractor and is responsible for the design of the project; procurement and selection of various environmentally-friendly materials and equipment from domestic and overseas suppliers; construction subcontracting and supervision of the project construction and equipment installment; testing, inspection and trial operation of the facilities; and delivery of a project to the customer upon its completion and inspection by the competent government authority or independent third parties or customers.

In 2019, the Group further expanded its market share in steel flue gas treatment by entering into contracts in relation to the flue gas treatment project for 350m² sintering machine of Tianjin Iron Factory and the flue gas treatment project for 90m² sintering machine with Jinyuan Industrial Co., Ltd.. As such, the Group's flue gas treatment performance in the steel industry continued to grow steadily. In the meantime, the Group entered into a contract for the 4 x 600 t/d lime double-hearth kiln flue gas SCR (selective catalytic reduction) denitrification project with Hebei Jinxi Africa Metal Mine Industry Co., Ltd., which is the Group's first time participating in the industrial kiln flue gas treatment, thus further expanding into the new non-electricity flue gas treatment market for the Group.

In 2019, the Group entered into a contract on the flue gas desulfurization and denitrification project for the LUCKY 1 x 660MW coal-fired power station in Pakistan, which was the Group's another breakthrough in the overseas market in response to China's "Belt and Road" and "China-Pakistan Economic Corridor" policy initiatives.

EPC

EPC業務主要涉及為發電廠、鋁廠、鋼鐵廠、化工廠二氧化硫或氮氧化物排放控制及除塵項目提供設計、設備與材料採購、項目建設及設備安裝服務。本集團作為主承包商行事，主要負責項目的設計；向國內及海外提供商採購並篩選多種環保材料及設備；施工分包及監督項目建設及設備安裝工程；設施的測試、檢查及試運行；及項目完工並經由政府有關當局或獨立第三方或客戶檢查後，向客戶交付項目。

於2019年，本集團進一步擴大其在鋼鐵煙氣處理的市場份額，簽訂天津鐵廠350m²燒結機煙氣治理工程以及與晉源實業有限公司的90m²燒結機煙氣治理工程，鋼鐵行業煙氣處理業績持續穩定增長。同時，本集團簽訂河北津西非金屬礦工業有限公司4X600 t/d石灰雙膛窯煙氣SCR(選擇性催化還原)脫硝工程項目，首次參與工業爐窯煙氣治理，進一步打開了本集團非電領域煙氣治理的新市場。

於2019年，本集團簽訂巴基斯坦LUCKY 1 x 660MW燃煤電站煙氣脫硫脫硝項目，這是本集團響應國家「一帶一路」和「中巴經濟走廊」政策，在海外市場取得的又一突破。



In 2019, the Group entered into an EPC project which is of the high-voltage electrode boiler heating and thermal storage load shifting auxiliary service project of the State Power Investment Fushun Thermal Power Company. As such, the business scope of the Group has been expanded.

於2019年，本集團簽訂國家電投撫順熱電分公司高壓電極鍋爐供熱蓄熱調峰輔助服務項目EPC總承包項目，拓展了集團新業務領域。

In 2019, the total contract value of new EPC projects (including desulfurization, denitrification and dust removal projects) of the Group in operation amounted to RMB486 million, of which the contract value of new EPC projects in steel industry was RMB226 million.

於2019年，本集團新訂約在執行EPC項目(包括脫硫、脫硝及除塵項目)的合約總值為人民幣486百萬元，其中，鋼鐵行業EPC項目新簽合同額人民幣226百萬元。

The following table sets forth the status of the EPC projects under construction as of 31 December 2019:

下表列示於2019年12月31日在建EPC項目情況如下：

No. 序號	Environmental protection facility engineering projects under construction 在建環保設施工程項目	Type of project 項目類型	Newly built/ upgraded 新建/改造	Date of contract 合同簽訂時間 (Month/Year) (年/月)	Aggregate contract value 合同額 (RMB million) (人民幣百萬元)
1.	Shentou Electric Power Phase II Desulfurization System and WESP Project 神頭發電二期脫硫系統及濕式電除塵項目	Desulfurization and dust removal 脫硫及除塵	Newly built 新建	December 2014 2014年12月	354
2.	Beihai Desulfurization Project 北海脫硫項目	Desulfurization 脫硫	Newly built 新建	November 2015 2015年11月	150
3.	Shouyang Green Island Project 壽陽環保島項目	Green Island 環保島	Newly built 新建	December 2015 2015年12月	288
4.	Shangqiu Desulfurization Project 商丘脫硫項目	Desulfurization 脫硫	Newly built 新建	June 2016 2016年6月	86
5.	Phase II Desulfurization EP Project in Serbia 塞爾維亞二期脫硫EP項目	Desulfurization 脫硫	Newly built 新建	September 2016 2016年9月	90
6.	Seawater Desulfurization System and Equipment Supply Project in Pakistan 巴基斯坦海水脫硫系統設備與供應項目	Desulfurization 脫硫	Newly built 新建	November 2016 2016年11月	91
7.	Xinjiang New Energy #1-2 Unit Desulfurization Project 新疆新能1-2號機組脫硫項目	Desulfurization 脫硫	Newly built 新建	December 2016 2016年12月	72
8.	Gaoqiao Denitrification System Supplies Procurement Project 高橋脫硝系統物資採購項目	Denitrification 脫硝	Upgraded 改造	April 2017 2017年4月	17
9.	Nanyang Desulfurization Project 南陽脫硫項目	Desulfurization 脫硫	Newly built 新建	March 2017 2017年3月	168



Management Discussion and Analysis (Continued)

管理層討論與分析 (續)

No. 序號	Environmental protection facility engineering projects under construction 在建環保設施工程項目	Type of project 項目類型	Newly built/ upgraded 新建 / 改造	Date of contract 合同簽訂時間 (Month/Year) (年 / 月)	Aggregate contract value 合同額 (RMB million) (人民幣百萬元)
10.	Jinxi Wanton 1#, 2#, 3# Sintering Machines Flue-gas Ultra-low Emission Project 津西萬通1#、2#、3#燒結機煙氣 超低排放項目	Green Island 環保島	Upgraded 改造	May 2018 2018年5月	216
11.	Jingneng Gao'antun Gas-fired Thermal Power Co., Ltd Waster Heat Boiler Denitrification Upgrade Project 京能高安屯燃氣熱電有限責任公司 餘熱鍋爐脫硝改造項目	Denitrification 脫硝	Upgraded 改造	June 2018 2018年6月	24
12.	Shandong Haihua Thermal Power Company Third Power Plant Desulfurization, Dust Removal Expansion and Upgrade Project 山東海化熱電公司三電廠脫硫除塵 擴建改造項目	Desulfurization and dust removal 脫硫及除塵	Expansion and upgraded 擴建改造	July 2018 2018年7月	50
13.	Jingxi Gas Thermal Power Plant #1, #3 Boiler Denitrification System Technical Upgrade Project 京西燃氣熱電1、3號鍋爐脫硝系統 技術改造工程	Denitrification 脫硝	Upgraded 改造	August 2018 2018年8月	17
14.	Zhongke Joint Venture Guangdong Refining and Chemical Integration Project Denitrification Project 中科合資廣東煉化一體化項目脫硝項目	Denitrification 脫硝	Newly built 新建	September 2018 2018年9月	25
15.	Chuanwei Denitrification, Desulfurization and Dust Removal Ultra Low Emissions Upgrade Project 川維脫硝、脫硫及除塵超低排放改造項目	Green Island 環保島	Upgraded 改造	September 2018 2018年9月	206
16.	Weiqiao Group Aluminium Power One, Two, Three, Four, Five, Yangxin and Beihai Electrolytic Aluminum Flue Gas Desulfurization Project 魏橋集團鋁電一、二、三、四、五、 陽信、北海公司電解鋁煙氣脫硫項目	Desulfurization 脫硫	Upgraded 改造	November 2018 2018年11月	156
17.	Tianjin Iron Factory 350m ² Sintering Machines Flue Gas Treatment Project 天津鐵廠350m ² 燒結機煙氣治理工程	Desulfurization,denitrification and dust removal 脫硫脫硝除塵	Upgraded 改造	March 2019 2019年3月	164



No. 序號	Environmental protection facility engineering projects under construction 在建環保設施工程項目	Type of project 項目類型	Newly built/ upgraded 新建/改造	Date of contract 合同簽訂時間 (Month/Year) (年/月)	Aggregate contract value 合同額 (RMB million) (人民幣百萬元)
18.	POWER CHINA Lucky 660MW Coal-fired Power Plant Desulfurization Equipment Procurement Project in Pakistan 中國電建巴基斯坦Lucky 660MW 燃煤電站脫硫設備採購項目	Desulfurization 脫硫	Newly built 新建	April 2019 2019年4月	132
19.	Jinyuan Industrial Co., Ltd. 90m ² Sintering Machines Flue Gas Treatment Project 晉源實業有限公司90m ² 燒結機煙氣治理工程	Desulfurization, denitrification and dust removal 脫硫脫硝除塵	Newly built 新建	April 2019 2019年4月	62
20.	EPC project of the high-voltage electrode boiler heating and thermal storage load shifting auxiliary service project of the State Power Investment Fushun Thermal Power Company 國家電投撫順熱電分公司高壓電極鍋爐供熱蓄熱調峰輔助服務項目EPC總承包	Heating and thermal storage load shifting auxiliary service 供熱蓄熱調峰輔助服務	Newly built 新建	August 2019 2019年8月	101
21.	4X600 t/d lime double-hearth kiln flue gas SCR denitrification project of Hebei Jinxi Africa Metal Mine Industry Co., Ltd. 河北津西非金屬礦工業有限公司4X600 t/d 石灰雙膛窯煙氣SCR脫硝工程項目	Denitrification 脫硝	Newly built 新建	December 2019 2019年12月	27



O&M

The provision of O&M services mainly includes operation services and regular maintenance services for desulfurization and denitrification facilities owned by the customers. The Group acts as a contractor to provide desulfurization, denitrification and dust removal operation services. The scope of work involves the full operation, repair, upgrade and maintenance of flue gas treatment system/facilities of coal-fired power plants. Under the O&M projects, our customers are either charged service fees for the O&M services based on the total amount of on-grid electricity generated during the service period, or a price predetermined at the commencement of the project based on the pre-agreed scope of work. Revenues from the O&M business can be a recurring one, generating stable cash flow for the Group.

In 2019, the Group acted as a contractor under the O&M projects to provide operation services in desulfurization, denitrification, dust removal and industrial sewage treatment. Regular maintenance services included a provision of technical support, facilities testing, maintenance services and spare parts replacement. Prior to 2019, the Group's O&M customers were mainly concentrated in the thermal power sector. In 2019, the Group successfully expanded its O&M business to the steel, coking and industrial sewage sectors, and the O&M services for the Lubao Sewage Treatment Center in China which was acquired in the same year, and have been undertaken by the Group independently. As of 31 December 2019, the Group had a total of 19 O&M projects under operation, which have operated consistently with their emissions in compliance with required standards and shall provide a stable source of business growth of the Group.

運維

運維服務的提供主要包括對客戶擁有的脫硫及脫硝設施提供運營服務及常規維護服務。本集團作為承包商提供脫硫、脫硝及除塵運營服務，工作範疇包括全面運營、檢修、升級及維護燃煤發電廠的煙氣處理系統／設施。根據運維項目，我們向客戶收取就運維服務基於服務期間總上網電量計算的服務費或在項目開始預先根據預先協議的開展工作範圍釐定的價格。運營與維護業務收入可以為本集團提供經常性收入來源和穩定的現金流量。

於2019年，本集團作為承包商根據運維項目提供脫硫、脫硝、除塵及工業污水處理運營服務。常規維護服務包括技術支持、設備測試、維護服務以及備件替換等服務。2019年之前，本集團運維客戶主要集中在火電領域，於2019年，成功將運維業務拓展至鋼鐵、焦化及工業污水領域。於同年收購的潞寶污水處理中心運維服務均由本集團自主完成。於2019年12月31日，本集團累計共有19個投運的運維項目，各項目穩定運行，達標排放，能夠為本集團提供穩健的業績增長來源。



The following table sets forth the installed capacities and status of the O&M projects of the Group under operation as of 31 December 2019:

於2019年12月31日，本集團的投運運維項目的裝機容量及項目情況如下：

No. 序號	Project name 項目名稱	Type of project 項目類型	Starting date of service 服務起始日期 (Month/Year) (年/月)	Expiring date of service contract 服務合約屆滿日期 (Month/Year) (年/月)	Installed capacity 裝機容量
1.	Yangcheng #1-6 Unit Flue Gas Desulfurization O&M Project 陽城1-6號機組煙氣脫硫運維項目	Desulfurization 脫硫	July 2018 2018年7月	August 2020 2020年8月	6×350MW
2.	Yangcheng #7-8 Unit Flue Gas Desulfurization O&M Project 陽城7-8號機組煙氣脫硫運維項目	Desulfurization 脫硫	June 2018 2018年6月	August 2020 2020年8月	2×600MW
3.	Yangcheng #7-8 Unit Slag Removal O&M Project 陽城7-8號機組除渣運維項目	Slag removal 除渣	June 2018 2018年6月	August 2020 2020年8月	2×600MW
4.	Bulian Flue Gas Desulfurization O&M Project 布連煙氣脫硫運維項目	Desulfurization 脫硫	April 2013 2013年4月	June 2019 2019年6月	2×660MW
5.	Qinzhou Desulfurization Q&M Project 欽州脫硫運維項目	Desulfurization 脫硫	July 2015 2015年7月	June 2021 2021年6月	2×630MW+ 2×1,000MW
6.	Jingjiang Flue Gas Desulfurization and Dust Removal O&M Project 靖江煙氣脫硫及除塵運維項目	Desulfurization and dust removal 脫硫及除塵	March 2016 2016年3月	March 2020 2020年3月	2×660MW
7.	Tianjin SDIC Jinneng Power Plant Desulfurization, WESP and Water Intake System Operation and Cleaning Project 天津國投津能脫硫濕電取水運行及保潔項目	Desulfurization 脫硫	August 2016 2016年8月	December 2020 2020年12月	4×1,000MW
8.	Yangxi Flue Gas Desulfurization and Denitrification O&M Project 陽西煙氣脫硫脫硝運維項目	Desulfurization and denitrification 脫硫及脫硝	January 2017 2017年1月	December 2025 2025年12月	2×660MW+2×600MW
9.	Chengde Desulfurization O&M Project 承德脫硫運維項目	Desulfurization 脫硫	May 2017 2017年5月	September 2019 2019年9月	2×350MW
10.	Shouguang Auxiliary Ashing and Sulfurization Control System Entrusted Operation Project 壽光灰硫化輔控系統委託運行項目	Desulfurization 脫硫	May 2018 2018年5月	May 2021 2021年5月	2×1,000WM
11.	Shanyin Phase II Environmental Protection O&M 山陰二期環保運維項目	Denitrification, desulfurization and slag removal 脫硝脫硫及除塵	June 2018 2018年6月	May 2021 2021年5月	2×350MW



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

No. 序號	Project name 項目名稱	Type of project 項目類型	Starting date of service 服務起始日期 (Month/Year) (年/月)	Expiring date of service contract 服務合約屆滿日期 (Month/Year) (年/月)	Installed capacity 裝機容量
12.	Jiantou Zunhua Auxiliary System Entrusted Operation Project 建投遵化輔助系統運行外委項目	Desulfurization 脫硫	August 2018 2018年8月	July 2019 2019年7月	2×350MW
13.	Xilinhaote Desulfurization and Denitrification O&M Project 錫林浩特脫硫脫硝運維項目	Desulfurization and denitrification 脫硫脫硝	December 2019 2019年12月	December 2020 2020年12月	2×660MW
14.	Jinxi Iron and Steel O&M Project 津西鋼鐵運維項目	Denitrification, desulfurization and dust removal 脫硝脫硫及除塵	March 2019 2019年3月	February 2022 2022年2月	265m ² sintering machines 265m ² 燒結機
15.	Jinxi Special Steel O&M Project 津西特鋼運維項目	Denitrification, desulfurization and dust removal 脫硝脫硫及除塵	March 2019 2019年3月	February 2022 2022年2月	2×210m ² +1×265m ² sintering machines 2×210m ² +1×265m ² 燒結機
16.	Denitrification, Desulfurization and Dust Removal O&M Project on 350m ² Sintering Machines of Tianjin Iron Plant 天津鐵廠350平方米燒結機脫硫脫硝除塵運維項目	Denitrification, desulfurization and dust removal 脫硫脫硝除塵	November 2019 2019年11月	November 2022 2022年11月	350m ² sintering machines 350m ² 燒結機
17.	Denitrification O&M Project on 360m ² Sintering Machines of Tianjin Iron Plant 天津鐵廠360平方米燒結機脫硝運維項目	Denitrification 脫硝	December 2019 2019年12月	November 2022 2022年11月	360m ² sintering machines 360m ² 燒結機
18.	Flue Gas Denitrification, Desulfurization and Dust Removal O&M Project on 4*65 Hole 6.05m Stamp Charging Coke Oven of Shanxi Lubao Group's Jingang Zhaofeng Coal Chemical Company 山西潞寶集團晉鋼兆豐煤化工4X65孔6.05米搗固焦爐煙氣脫硫脫硝除塵運維項目	Denitrification, desulfurization and dust removal 脫硫脫硝除塵	December 2019 2019年12月	November 2024 2024年11月	4*65 hole 6-05m stamp charging coke oven 4*65孔6-05米搗固焦爐
19.	Flue Gas Denitrification, Desulfurization and Dust Removal O&M Project on 4×75 t/h Facilities of Shanxi Lubao Group's Shanxi Jintao Lubao Chemical Co., Ltd. 山西潞寶集團山西建滔潞寶化工有限責任公司4×75 t/h鍋爐煙氣脫硫、脫硝、除塵設施運維項目	Denitrification, desulfurization and dust removal 脫硫脫硝除塵	December 2019 2019年12月	November 2024 2024年11月	4×75 t/h



Concession Operation Business

Under the concession operation business model, the Group is responsible for the financing, investment, construction and upgrading of a project according to its concession contracts with its customers. In general, the concession projects are funded by the Group's internal funds or borrowings from local banks. Upon the completion of construction, the Group owns the project assets and operates the project for a period specified in the concession agreement, which is typically 15 to 20 years, and the Group is entitled to collect revenues generated from the project during the term of the contract. Revenues generated from the concession operation business during the operation phase of the relevant projects are calculated based on the on-grid power generation of the customer during the operation phase multiplied by the unit price specified in the concession contract, which is generally settled every calendar month. Further, the Group also generates revenues from the sales of by-products during the operation of the environmental protection facilities. The fees that the Group receives for the provision of concession services under concession agreement typically include service fees based on a guaranteed minimum flue gas treatment volume multiplied by a fixed unit price (pre-determined at the time the concession agreement is entered into with the customer) and such fees are subject to adjustment by certain variable costs the Group incurred.

In 2019, the Group continued to carry out its concession operation business, including desulfurization, denitrification and green island (which is an integrated flue gas treatment system to treat synergistically the flue gas pollutants produced by the boilers of coal-fired power plants, including denitrification, desulfurization, dust removal, induced drafted fan system, reheating system). As of 31 December 2019, the Group has accumulated nine concession operation projects and all of which have been under operation smoothly, laying a strong foundation for us to operate continuously and develop steadily.

特許經營業務

在特許經營業務模式下，本集團負責根據與其客戶訂立的特許經營合同為項目籌措資金、投資、建設及改造。一般而言，本集團以自有資本或向當地銀行借款為特許經營項目撥付資金。竣工後，本集團亦於特許協議預先規定的期限（通常為15至20年）內擁有項目資產並經營項目，本集團亦有權在合約期內收取項目所得收入。特許經營業務於相關項目經營期內產生的收入乃按經營期內客戶的上網電量使用特許經營合約所訂明之單價計算，並一般按月與客戶結算。此外，本集團亦於環保設施投運期間自銷售副產品產生收入。本集團根據特許合約提供特許經營服務而收取的費用通常包括按最低保證煙氣處理量計算乘以固定單價（與客戶訂立特許協議時預先釐定）的服務費，該等費用會根據本集團承擔的某些可變成本相應調整。

於2019年，本集團繼續實施其特許經營業務，包括脫硫、脫硝及環保島（其為燃煤電廠鍋爐燃燒後的煙氣污染物協同處理的集成煙氣處理系統，包括脫硝、脫硫、除塵、引風機系統、再加熱器等各種裝置）。於2019年12月31日，本集團累計執行9個特許經營項目，所有項目均已順利投運，為本集團持續經營和穩定發展奠定重要基礎。



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

The following table sets forth details of the concession operation projects of the Group under operation as of at 31 December 2019:

於2019年12月31日，本集團投運的特許經營項目詳情如下：

No.	Project name	Installed capacity	Type of project	Newly built/ upgraded	Total investment	Date of signing contract	Ending date of concession period 特許經營期限 屆滿日期 (Year/Month) (年/月)
序號	項目名稱	裝機容量	項目類型	新建/改造	投資總額 RMB million 人民幣百萬元	合同簽訂日期 (Year/Month) (年/月)	
1.	Jiangxi Jinggangshan BOT Project 江西井冈山BOT項目	2x300MW +2x660MW	Desulfurization 脫硫	Newly built 新建	224	January 2008 (for Phase I) August 2008 (for Phase II) 2008年1月(一期) 2008年8月(二期)	July 2030 (for Phase I) December 2030 (for Phase II) 2030年7月(一期) 2030年12月(二期)
2.	Shanxi Hejin BOT Project 山西河津BOT項目	2x350MW	Denitrification 脫硝	Newly built 新建	90	June 2012 2012年6月	September 2033 (for Unit #1) May 2033 (for Unit #2) 2033年9月(1號機組) 2033年5月(2號機組)
3.	Shanxi Puzhou Phase I BOT Project 山西蒲洲一期BOT項目	2x300MW	Denitrification 脫硝	Newly built 新建	84	June 2012 2012年6月	January 2034 (for Unit #1) May 2033 (for Unit #2) 2034年1月(1號機組) 2033年5月(2號機組)
4.	Shanxi Puzhou Phase II BOT Project 山西蒲洲二期BOT項目	2x350MW	Denitrification 脫硝	Newly built 新建	112	May 2014 2014年5月	End of 2037 2037年底
5.	Shanxi Yuguang BOT Project 山西昱光BOT項目	2x300MW	Green Island 環保島	Upgraded 改造	82	May 2015 2015年5月	February 2036 (for Unit #1) May 2035 (for Unit #2) 2036年2月(1號機組) 2035年5月(2號機組)
6.	Xinjiang Shenhua BOT Project 新疆神火BOT項目	4x350MW	Green Island 環保島	Upgraded 改造	490	June 2017 2017年6月	End of 2032 2032年底
7.	Huainan Guqiao BOT Project 淮南顧橋BOT項目	2x330MW	Green Island 環保島	Upgraded 改造	173	May 2018 2018年5月	End of 2033 2033年底
8.	Xinjiang Guotai Xinhua BOT Project 新疆國泰新華BOT項目	2x350MW	Green Island 環保島	Upgraded 改造	150	July 2018 2018年7月	June 2028 2028年6月
9.	Guangxi Laibin BOO Project 廣西來賓脫硫脫硝除塵BOO項目	2x300MW	Green Island 環保島	Upgraded 改造	281	December 2018 2018年12月	End of 2033 2033年底



Industrial Sewage Treatment Business

In 2019, the Group acquired the Lubao Sewage Treatment Center at a cash consideration of RMB300 million. The designed capacity of the wastewater (sewage) biological treatment unit, the wastewater (sewage) advanced treatment and recycling unit, and the reclaimed water and sewage recycling unit is 560m³/h, 560m³/h and 400m³/h, respectively. The operation of Lubao Sewage Treatment Center applies advanced technologies, including ultrafiltration, nanofiltration, reverse osmosis and other processes. With wastewater biochemical treatment, wastewater advanced recycling equipment and reclaimed water and sewage recycling, it operates throughout the business chain.

The industrial sewage treatment business is one of the new directions for the Group's future development. Through the acquisition of Lubao Sewage Treatment Center, the Group has successfully explored a new sector in the environmental protection market, which will bring continuous and stable benefits to the Group's performance. The Group regards Lubao Sewage Treatment Center as a demonstration project for such industry and intends to train a team of technology and operating professionals in industrial wastewater treatment, so as to lay a solid foundation for the development of the sewage treatment market of chemical parks in China.

工業污水處理業務

2019年，本集團收購潞寶污水處理中心，現金代價為人民幣300百萬元，廢(污)水生物處理單元的設計規模為560m³/h、廢(污)水深度處理及回用單元的設計處理規模為560m³/h、循環水排污水回用單元的設計處理規模為400m³/h。潞寶污水處理中心技術含量高，包括超濾、納濾、反滲透等工藝，具有廢水生化處理、廢水深度回用裝置以及循環水排污水回用，業務鏈條完整。

工業污水處理業務是本集團未來發展的新方向之一，通過收購潞寶污水處理中心，成功開拓環保市場新領域，未來為集團業績帶來持續穩定的收益。本集團將以潞寶污水中心作為該領域的示範項目，培養出一批工業污水處理領域的技術和運行專業人員，為集團開拓中國化工園區污水處理的市場奠定基礎。



3. FINANCIAL POSITION AND OPERATING RESULTS

In 2019, the development of the global economy was stagnant, while the economy of mainland China was growing steadily under the influence of the complex landscape both domestically and abroad and has experienced an economic slowdown. Against the backdrop of the relatively weak market demand and the escalation of Sino-US trade disputes, the production of industrial enterprises has continued to slow and the operating structure has been undergoing adjustment. The environmental protection industry has ushered in a new round of competition and challenges, which has heightened requirements for the enterprises' ability on cost control and financing.

In 2019, the Group continued to maintain a sound business strategy, actively make deployments on new business sectors and make new breakthroughs in industrial sewage treatment projects. Besides, the Group expanded its flue gas treatment business in non-electricity sectors and increased its market shares in steel, petrochemical, electrolytic aluminum sectors. In addition, the Group's main business continued to develop steadily, with optimized operating structure, excellent asset quality, abundant cash flow and bank facilities, as well as continued to maintain a relatively low gearing ratio.

Revenue

In the 2019 Financial Year, the Group's total revenue increased by 5.2% to RMB1,836 million as compared with RMB1,745 million for the 2018 Financial Year, mainly attributable to the growth in the revenue of the Group's new business during the reporting period.

3. 財務狀況及經營業績

2019年，世界經濟發展進入低谷周期，中國經濟在國內外複雜局面的影響下穩中求進，增速減緩。在市場需求相對疲軟和中美貿易爭端升級背景下，工業企業生產持續放緩，經營結構調整。環保行業迎來新一輪競爭和挑戰，對於企業的成本控制及融資能力提出了更高的要求。

2019年，本集團繼續保持穩健的經營策略，積極佈局新業務領域，工業污水處理項目取得新突破；擴大非電領域煙氣治理業務，鋼鐵、石化、電解鋁等業務市場佔比增加；主營業務持續穩定發展，經營結構優化，資產品質優良，現金流和銀行授信充裕，資產負債率繼續保持較低水平。

收入

本集團的收入總額於2019財政年度為人民幣1,836百萬元，較2018財政年度的人民幣1,745百萬元增長5.2%，主要由於本集團報告期內新業務收入有所增長。



The Group generates revenues primarily from three major operating segments: (i) the EPC business, (ii) the O&M business, and (iii) concession operation business. The following table sets forth a breakdown of the revenue of the Group by segment for the periods stated.

本集團主要從三個經營分部賺取收入：(i) EPC業務；(ii)運維業務；及(iii)特許經營業務。下表載列本集團於所示期間按分部劃分的收入明細。

		Segment revenue	
		分部收入	
		Year ended 31 December 2019 截至2019年 12月31日 止年度 RMB'000 人民幣千元	Year ended 31 December 2018 截至2018年 12月31日 止年度 RMB'000 人民幣千元
EPC	EPC	730,628	722,117
Operation and Maintenance	運維	380,317	415,113
Concession Operation	特許經營	700,489	580,051
Of which: Operation	其中：運營	524,068	369,880
Construction	建造	176,421	210,171
Others	其他	25,062	27,717
Total	總額	1,836,496	1,744,998

Revenue generated from the EPC business for the 2019 Financial Year amounted to RMB731 million, representing a slight increase as compared with the 2018 Financial Year, mainly attributable to some contracted projects suffered postponement or delays in construction due to economic downturn, and no corresponding income was recognized during the reporting period.

EPC業務的收入為2019財政年度的人民幣731百萬元，較2018財政年度略有增長，主要由於部分簽約項目受經濟下行影響出現了工期延遲及緩建情況，未在報告期內確認對應收入。

The revenue generated from the O&M business for the 2019 Financial Year decreased by 8.4% to RMB380 million as compared with RMB415 million for the 2018 Financial Year, mainly attributable to the changes in the service specification of the large-scale power generation O&M project undertaken by the Group, the maintenance downtime and the reduction of power generation.

運維業務的收入由2018財政年度的人民幣415百萬元減少至2019財政年度的人民幣380百萬元，減少8.4%。主要由於本集團承接的大型發電運維項目服務內容有所變化及停機檢修發電量減少。



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

Revenue from concession operation business for the 2019 Financial Year increased by 20.7% to RMB700 million as compared with RMB580 million for the 2018 Financial Year, mainly attributable to the increase of operating income resulting from the beginning of operation of the new concession operation projects in flue gas treatment sectors during the reporting period.

Cost of Sales and Services

The Group's cost of sales and services for the 2019 Financial Year increased by 7.2% to RMB1,530 million as compared with RMB1,427 million for the 2018 Financial Year, mainly attributable to the increase in the cost of raw materials and labor after the Group's newly added concession operation project was put into operation during the reporting period.

Cost of sales and services for the Group's EPC business consists primarily of technology and design costs, equipment procurement cost, construction and installation costs. The cost of sales and services for the EPC business for the 2019 Financial Year amounted to RMB701 million, representing a slight increase of 5.3% as compared with RMB666 million for the 2018 Financial Year, mainly attributable to the slight increase of revenue as compared to the same period of last year.

Cost of sales and services for the O&M service consists of raw materials costs, labor costs and inspection and repair costs. The cost of sales and services for the O&M service for the 2019 Financial Year increased by 2.7% to RMB299 million as compared with RMB291 million for the 2018 Financial Year, mainly attributable to the decrease in revenue from O&M services and the increase of raw material prices.

特許經營業務的收入由2018財政年度的人民幣580百萬元增長至2019財政年度的人民幣700百萬元，增長20.7%。主要由於本集團於報告期內煙氣治理領域新增的特許經營項目投運所形成的運營收入增加。

銷售及服務成本

本集團的銷售及服務成本由2018財政年度的人民幣1,427百萬元增長至2019財政年度的人民幣1,530百萬元，增長7.2%。主要由於本集團報告期內新增特許經營項目投運原材料及人工成本增加。

EPC業務的銷售及服務成本主要包括：技術和設計成本、設備採購成本及建造與安裝成本。EPC業務的銷售及服務成本由2018財政年度的人民幣666百萬元增長至2019財政年度的人民幣701百萬元，增長5.3%。主要由於收入略高於上年同期。

運維服務的銷售及服務成本包括：原材料成本、人工成本及檢修維護成本。運維服務的銷售及服務成本由2018財政年度的人民幣291百萬元增加至2019財政年度的人民幣299百萬元，增加2.7%。主要由於運維服務的原材料價格上漲。



Cost of sales and services for the concession operation business consists primarily of raw material costs, labor costs, amortization and depreciation and construction costs. The cost of sales and services for the concession operation business for the 2019 Financial Year increased by 13.3% to RMB528 million as compared with RMB466 million for the 2018 Financial Year, mainly attributable to the increase in the cost of raw materials and labor resulting from the increase in the revenue of the newly added concession operation project during the reporting period

Gross Profit and Gross Profit Margin

The gross profit of the Group for the 2019 Financial Year decreased by 3.5% to RMB307 million as compared with RMB318 million for the 2018 Financial Year, while the gross profit margin of the Group for the 2019 Financial Year decreased to 16.7% as compared with 18.2% for the 2018 Financial Year, mainly attributable to the decrease in revenue from O&M business and the increase in costs.

特許經營業務的銷售及服務成本主要包括：原材料成本、人工成本、攤銷折舊和建造成本。特許經營業務的銷售及服務成本由2018財政年度的人民幣466百萬元增長至2019財政年度的人民幣528百萬元，增長13.3%。主要由於報告期內新增特許經營項目收入增加導致原材料及人工成本增加。

毛利及毛利率

本集團毛利由2018財政年度的人民幣318百萬元減少至2019財政年度的人民幣307百萬元，減少3.5%；毛利率由2018財政年度的18.2%減少至2019財政年度的16.7%。主要由於本集團運維業務的收入減少和成本增加。



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

The following table sets forth the Group's gross profit and gross profit margin for each of the business segments for the periods stated.

下表載列本集團於所列期間各業務分部的毛利及毛利率。

		Year ended 31 December 2019 截至2019年 12月31日止年度		Year ended 31 December 2018 截至2018年 12月31日止年度	
		Gross Profit 毛利 RMB' 000 人民幣千元	Gross Profit Margin 毛利率 %	Gross Profit 毛利 RMB' 000 人民幣千元	Gross Profit Margin 毛利率 %
EPC	EPC	29,344	4.0	56,523	7.8
O&M	運維	81,659	21.5	124,556	30.0
Concession Operation	特許經營	172,257	24.6	114,042	19.7
Of which: Operation	其中：運營	167,818	32.0	109,297	29.5
Construction	建造	4,439	2.5	4,745	2.3
Others	其他	23,262	92.8	22,737	82.0
Total	總額	306,522	16.7	317,858	18.2

The gross profit of the EPC business for the 2019 Financial Year decreased by 49.1% to RMB29 million as compared with RMB57 million for the 2018 Financial Year, while the gross profit margin for the 2019 Financial Year decreased to 4.0% as compared with 7.8% for the 2018 Financial Year, mainly attributable to the decrease of the gross profit of newly signed contracts resulting from market competition and the increase in the raw material costs.

EPC業務的毛利由2018財政年度的人民幣57百萬元減少至2019財政年度的人民幣29百萬元，減少49.1%；毛利率由2018財政年度的7.8%減少至2019財政年度的4.0%。主要由於市場競爭導致新簽訂單毛利下降及人工、原材料成本上漲。



The gross profit of the O&M business for the 2019 Financial Year decreased by 34.4% to RMB82 million as compared with RMB125 million for the 2018 Financial Year, while the gross profit margin decreased from 30.0% in the 2018 Financial Year to 21.5% for the 2019 Financial Year, mainly attributable to (i) the changes in the service specification of the large-scale power generation O&M project undertaken by the Group and the decrease in revenue resulting from maintenance downtime and the reduction of power generation; and (ii) the increase of raw material prices in the O&M business.

The gross profit of the concession operation business for the 2019 Financial Year increased by 50.9% to RMB172 million as compared with RMB114 million for the 2018 Financial Year, while the gross profit margin increased from 19.7% for the 2018 Financial Year to 24.6% for the 2019 Financial Year, mainly attributable to (i) the increase of flue gas treatment operation projects; (ii) the strengthening on cost control and the reduction of raw material and energy consumption; and (iii) the decrease of the proportion of construction revenue as compared to the same period last year, which has a lower gross profit margin during the construction stage.

Other Income and expenses and Other Gains and Losses

Other income and expense and other gains and losses consist primarily of government grants, foreign exchange gains and losses, interest income etc.

The Group's other income and expense and other gains and losses for the 2019 Financial Year decreased by 78.6% to RMB25 million as compared with RMB117 million for the 2018 Financial Year. The decrease was mainly attributable to (i) the decrease in foreign exchange gains as compared to the same period last year; (ii) the decrease in gains from extinguishment of liabilities as compared to the same period last year; and (iii) allowance of impairment losses of RMB15 million.

運維業務的毛利由2018財政年度的人民幣125百萬元減少至2019財政年度的人民幣82百萬元，減少34.4%；毛利率由2018財政年度的30.0%減少至2019財政年度的21.5%。主要由於：(i)本集團承接的大型發電運維項目服務內容有所變化及停機檢修導致收入減少；及(ii)運維業務原材料上漲。

特許經營業務的毛利由2018財政年度的人民幣114百萬元增長至2019財政年度的人民幣172百萬元，增長50.9%；毛利率由2018財政年度的19.7%增長至2019財政年度的24.6%。主要由於：(i)煙氣處理投運項目增加；(ii)加強成本控制使原材料和能源消耗有所降低；及(iii)建造階段毛利率較低，建造收入與上年同期佔比下降。

其他收入及開支以及其他收益和虧損

其他收入及開支以及其他收益和損失主要包括政府補助、匯兌損益、利息收入等。

本集團的其他收入及開支以及其他收益和虧損由2018財政年度的人民幣117百萬元減少至2019財政年度的人民幣25百萬元，減少78.6%。主要由於：(i)匯兌收益較上年同期減少；(ii)取消償還負債的收益比上年同期減少；及(iii)預提項目損失人民幣15百萬元。



Selling and Distribution Expenses

The Group's selling and distribution expenses amounted to RMB29 million for the 2019 Financial Year, as compared to RMB26 million for the same period last year. The percentage of selling and distribution expenses to revenue was 1.6%, up 0.1 percentage point year-on-year, mainly attributable to the increase of selling expenses due to the expansion of new business in the industrial sewage treatment and hazardous and solid waste treatment/disposal markets during the reporting period.

Administrative Expenses

The Group's administrative expenses amounted to RMB89 million for the 2019 Financial Year, as compared to RMB98 million for the same period last year. The percentage of administrative expenses to revenue was 4.8% in 2019, representing a decrease of 0.8 percentage point as compared with the same period of 2018, mainly attributable to the strengthening of control on costs and expenses.

Finance Costs

Finance costs consist of interest expense on bank borrowings.

The Group's finance costs for the 2019 Financial Year amounted to RMB4 million, representing a decrease of 33.3% as compared with RMB6 million for 2018, mainly attributable to the decrease of financing costs resulting from the increase of the utilization of acceptance bills for saving financial costs during the reporting period.

Gearing Ratio

The gearing ratio is calculated as the percentage which the Group's total bank borrowings bears to the Group's total equity. The Group's gearing ratio increased from 3.0% as at 31 December 2018 to 4.7% as at 31 December 2019, mainly attributable to the increase in notes payables and bank borrowings during the reporting period.

銷售及分銷開支

於2019財政年度，本集團銷售及分銷開支為人民幣29百萬元，而上年同期為26百萬元。銷售及分銷開支佔收入比1.6%，較上年同期增加0.1個百分點。主要由於本報告期內工業污水處理及危固廢處理處置新業務市場開拓銷售費用增加。

行政開支

於2019財政年度，本集團行政開支為人民幣89百萬元，而上年同期為98百萬元。2019年行政開支佔收入比4.8%，較2018年同期減少0.8個百分點。主要由於公司加強了成本費用管控。

財務費用

財務費用包括銀行借款的利息開支。

於2019財政年度，本集團的財務費用為人民幣4百萬元，較2018年的人民幣6百萬元減少33.3%。主要由於報告期內為節約財務費用增加承兌匯票的使用，降低了融資成本。

資產負債比率

資產負債比率乃根據本集團的銀行借款總額佔本集團的總權益的百分比釐定。本集團的資產負債比率由2018年12月31日的3.0%增加至2019年12月31日的4.7%。主要由於報告期內應付票據及銀行借款增加。



Income Tax Expenses

The corporate income tax of the Group and its subsidiaries includes the following taxation: 1) the Company, which was incorporated in the Cayman Islands, is not subject to any Cayman Islands taxation; 2) certain subsidiaries of the Company are entitled to a preferential income tax rate of 15% as high-end new technology enterprises; 3) some of the other subsidiaries of the Company are entitled to a three-year tax holiday followed by a three-year 50% tax rate reduction as their operations comply with preferential tax policies for environmental protection and energy conservation industries; and 4) other subsidiaries are subject to an income tax rate of 25%.

The income tax expenses of the Group for the 2019 Financial Year amounted to RMB26 million, representing a decrease of 53.6% as compared with RMB56 million for the same period last year, mainly attributable to the decrease in profit before tax and newly added preferential policies for concession operation projects.

Profit for the Year

The Group recorded a net profit of RMB183 million for the 2019 Financial Year, as compared to a net profit of RMB393 million for the 2018 Financial Year. Excluding the gain from change in fair value of convertible ordinary shares amounting to RMB134 million for 2018, the net profit of the Group for 2019 would have decreased by RMB76 million as compared to 2018, representing a decrease of 29.3%, mainly attributable to (i) the decrease in gross profit of the environmental protection facilities engineering and O&M sectors; (ii) the decrease in foreign exchange gains as compared to the same period last year; and (iii) the increase in R&D expenses as compared to the same period last year.

所得稅開支

本集團及其附屬公司企業所得稅包括：1) 本集團於開曼群島註冊成立，並無繳納任何開曼群島稅項；2) 部分附屬公司為高新技術企業，享受15%的所得稅優惠稅率；3) 部分所屬公司因其業務符合環保、節能行業稅收優惠政策，享受三年免於繳稅及其後三年減半繳稅的優惠待遇；及4) 部分附屬公司按25%的所得稅率繳稅。

於2019財政年度本集團的所得稅開支為人民幣26百萬元，較上年同期的56百萬元，減少53.6%。主要由於稅前利潤減少和特許經營項目新增優惠政策。

年內溢利

本集團於2019財政年度錄得淨利人民幣183百萬元，2018財政年度錄得淨利人民幣393百萬元。剔除2018年可轉換普通股之公允價值變動134百萬元後，2019年較2018年淨利同口徑減少76百萬元，減少29.3%。主要由於(i)環保設施工程和運行維護板塊毛利潤額減少；(ii)匯兌收益比上年同期減少；及(iii)研發開支較上年同期增加。



Profit Attributable to the Owners of the Company

Profit attributable to the owners of the Group for the 2019 Financial Year was RMB183 million, while the profit attributable to the owners of the Group for the 2018 Financial Year was RMB394 million.

Liquidity and Capital Resources

Taking into account the financial resources available to the Group, including cash and cash equivalents on hand, cash generated from operations and available facilities of the Company and the net proceeds from the Listing, and after diligent and careful analysis, the Directors are of the view that the Group has sufficient working capital required for the Group's operations at present and for the year ending 31 December 2020.

Cash Flows

The Group's cash and cash equivalents decreased by 42.2% from RMB780 million as at 31 December 2018 to RMB451 million as at 31 December 2019, which is mainly attributable to the expenses for the investments and the merger and acquisition of industrial sewage treatment and flue gas treatment concession operation projects.

Capital Expenditure

The capital expenditure of the Group comprises expenditures on the purchase of property, plant and equipment and the construction of concession operation projects. For the 2019 Financial Year, the total capital expenditure of the Group was RMB317 million, and mainly attributable to the investment in concession operation projects, which have long operation periods, high gross profit margins and stable cash flow, so as to ensure the sustainable development of the Group.

本公司擁有人應佔溢利

2019財政年度，本集團擁有人應佔溢利為人民幣183百萬元，而於2018財政年度，本集團擁有人應佔溢利為人民幣394百萬元。

流動資金及資本來源

考慮到本集團可動用的財務資源（包括本公司手頭的現金及現金等價物、經營所得現金及可動用融資）及上市所得款項淨額，並經審慎及仔細查詢後，董事認為本集團擁有充足營運資金，滿足本集團目前及截至2020年12月31日止年度的經營需求。

現金流量

本集團現金及現金等價物由2018年12月31日的人民幣780百萬元，減少至2019年12月31日的人民幣451百萬元，減少42.2%。主要由於投資和併購工業污水處理和煙氣治理特許經營項目支出。

資本開支

本集團的資本開支就購置物業、廠房及設備和建設特許經營項目而產生。於2019財政年度，本集團的資本開支總額為人民幣317百萬元，主要由於投資經營周期長毛利率高和穩定現金流的特許經營項目，以保證本集團的可持續發展。



Contingent Liabilities

As at 31 December 2019, the Group did not have any material contingent liabilities.

Pledge of the Group's Assets

As at 31 December 2019, the Group had not pledged any of its assets.

或然負債

於2019年12月31日，本集團並無任何重大或然負債。

本集團資產抵押

於2019年12月31日，本集團無任何資產抵押。

4. RISK FACTORS AND RISK MANAGEMENT

Risks on environmental protection and pollution control policies

The Group provides substantially all of its environmental protection services to customers in the PRC, and the development of its businesses is greatly dependent on the pollution preventive policies of the PRC. Environmental protection industry is one of the major industries that benefit from the constant support of the PRC governments. The demand for the Group's environmental protection services and the revenue generated therefrom are directly linked with the environmental protection requirements imposed on the current and potential customers of the Group. However, there can be no assurance that the specific favourable policies which are currently available will continue to exist. In addition, these policies and incentives may attract additional new market entrants that can provide other products or services with greater pollution control effects than the products and services of the Group. Therefore, there is no assurance that the Group will directly benefit from the changed industry policies. However, as a large-scale brand enterprise in the environmental protection industry, the Group will capture new market opportunities in solid waste treatment and sewage treatment on the basis of its mature flue gas treatment business, and at the same time ambitiously expand its business in the new market of the non-electricity industries such as steel, petrochemical and cement, with a view to achieving the strategic objective of becoming a comprehensive environmental protection industry group.

4. 風險因素及風險管理

環保及污染防治政策的風險

本集團向中國客戶提供絕大部分環保服務，且其業務發展在很大程度上取決於中國的污染防治政策。環保行業是受惠於中國政府持續支持的主要行業之一。對本集團環保服務的需求以及於該服務產生的收益與施加於本集團現有及潛在客戶的環保規定直接相關。然而，本集團無法保證目前享有的特定優惠政策將繼續存在。此外，該等政策及激勵措施或會吸引其他新商家進入市場，並可能提供防治污染效果較本集團更好的其他產品及服務。因此，無法保證本集團直接受惠於已變更的行業政策。然而，本集團作為環保行業大型品牌企業，在煙氣治理成熟業務的基礎上將把握固廢處理和污水處理的新市場機遇，並同時積極擴展鋼鐵、石化及水泥等非電行業的新市場業務，以期實現綜合環保產業集團的戰略目標。



Liquidity Risks

Although the Group recorded a positive operating cash flow in the 2019 Financial Year, there is no guarantee that the Group will have positive operating cash flows in any future period. The Group's ability to generate adequate cash inflows from operating activities in the future will depend on its overall annual fund arrangement, its ability to recover receivables and the credit terms it can obtain. If the Group is not able to generate sufficient cash flows from its operations, the Group's operating position may be materially and adversely affected. Ultimate responsibility for liquidity risk management rests with the Directors, who have established a rigid liquidity risk management regime for the management of the Group's liquidity management requirements. The Group manages liquidity risk by various measures, such as maintaining adequate reserves, banking facilities and bank credit lines and continuously monitoring forecast and actual cash flows.

Credit Risks

The credit risk primarily arises from trade and notes receivables, receivables under concession arrangement, bank balance and cash, pledged bank deposit, contract assets, debt instrument at FVTOCI, other receivables and amounts due from related parties. Due to the nature of business of the Group, the Group has significant concentration of credit risk on a small number of customers and the financial guarantee provided by the Group. As of 31 December 2019, the aggregated amount of the Group's trade and notes receivables of the top five customers was RMB282 million, representing 47.7% of the total trade and notes receivable. Besides, the receivables of the concession operation projects amounted to RMB377 million as of 31 December 2019. The Group's concentration of credit risk by geographical locations is solely in the PRC, and the Group has a credit policy in place and the exposure to these credit risks are monitored on an ongoing basis.

流動資金風險

儘管本集團於2019財政年度錄得正經營現金流量，但無法保證本集團於任何未來期間的經營現金流量將為正數。本集團未來自經營活動產生充足現金流入的能力將取決於年度資金總體安排、應收款項的回收能力及本集團能取得的信用期。倘本集團未能從營運中產生充足的現金流量，本集團的經營狀況可能受到重大不利影響。董事須為流動資金風險管理負有最終責任，彼等已建立嚴格的流動資金風險管理體系，以滿足本集團流動資金管理需要。本集團透過維持足夠備用現金、銀行融資及銀行授信額度、持續監察預測實際現金流量等措施管理流動資金風險。

信貸風險

信貸風險主要來自貿易應收款項及應收票據、特許經營安排項下的應收款項、銀行結餘及現金、已抵押銀行存款、合約資產、按公允價值計入其他全面收益的債務工具、其他應收款項以及應收關連方款項。由於本集團的業務性質，信貸風險主要集中於少數客戶以及本集團提供的財務擔保。截至2019年12月31日，本集團五大客戶的貿易應收款項及應收票據總額為人民幣282百萬元，佔本集團總額的47.7%。此外，於2019年12月31日，特許經營項目的應收款項為人民幣377百萬元。本集團的信貸風險地域上僅集中於中國，本集團已落實信貸政策，持續監察所面對的該等信貸風險。



Foreign Exchange and Conversion Risks

Almost all of the Group's operating activities are carried out in the PRC with most of the transactions denominated in RMB. The Group is exposed to foreign exchange and conversion risks primarily through sales and procurement that are denominated in currencies other than RMB. In addition, RMB is not freely convertible into foreign currencies and the conversion of RMB into foreign currencies is subject to rules and regulations of the foreign exchange control promulgated by the PRC Government. The Group does not have a foreign currency hedging policy. However, the Directors will monitor the Group's foreign exchange exposure closely and may, depending on the circumstances and trend of foreign currency, consider adopting significant foreign currency hedging policy in the future.

外匯與貨幣兌換風險

本集團幾乎所有經營業務均在中國進行，且大部分交易以人民幣計值。本集團所面對的外匯及兌換風險主要來自以人民幣以外的其他貨幣所進行的銷售及採購業務。此外，人民幣不可自由兌換為外幣，而且將人民幣兌換為外幣須受中國政府頒佈的外匯管制規則及條例規限。本集團並無外幣對沖政策。然而，董事將密切監察本集團的外匯風險，並可能於日後視乎外幣的情況及走勢考慮採納重大外幣對沖政策。

5. OUTLOOK ON THE GROUP'S FUTURE DEVELOPMENT

With the changes in the market demand for environmental governance, the requirements for enterprises in the environmental protection industry has been increasingly demanding and will bring about a change in the industry structure. In the future, the development of the environmental protection industry will enter a new era characterized with intensive pollution control, demutualized equities in enterprises, diversified investment channels and personalized service models.

5. 本集團未來發展的展望

隨着環境治理市場需求變化，環保行業對企業的要求越來越高，行業格局也將發生變化。未來，環保產業發展將全面步入治污形式集約化、企業產權股份化、投資渠道多元化、服務模式個性化的新時代。



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

In the future, the Group will continue to aim at creating a comprehensive environmental protection platform enterprise by adjusting its business structure, optimizing resource allocation and expanding market share. Besides, it will continue to expand its multiple business areas comprising (i) flue gas governance, (ii) industrial sewage treatment and (iii) hazardous and solid waste treatment/disposal, striving to develop into a world-class group in the environmental protection industry. Looking ahead, the Group will carry out the following key tasks:

(1) Maintain stable development of the Group's main business and continue to expand its air pollution governance business in non-electricity sectors

The Group will continue to promote smart and intelligent O&M, provide all-round services and vigorously build a “Boqi O&M” brand in the industry, so as to expand its O&M project market in the traditional flue gas governance field. The Group will optimize the proportion between its concession operations and O&M business and improve the profitability of the Group. While the current flue gas desulfurization and denitrification business in the electricity sector has entered a stage of in-depth governance, the Group will seize opportunities brought about by national policies and utilize its own technology and extensive project experience to strive to develop its business in non-electricity sectors. The Group will fully tailor its one-stop service of “EPC+O&M” to the actual needs of customers in the steel industry, with a view to continuously consolidating the foundation for the Group's sustainable development.

未來，本集團將繼續以打造「平台型」綜合性環保企業為目標，調整業務結構，優化資源配置，擴展市場份額。繼續開拓(i)煙氣治理、(ii)工業污水治理及(iii)危固廢處理處置等多重業務領域，致力於發展成為國際一流的環保產業集團。展望未來，本集團將開展以下重點工作：

(1) 保持集團主營業務穩定發展，繼續拓展非電領域大氣治理業務

繼續在傳統煙氣治理領域中，推進「智能運維」、「智慧運維」，提供「全流程服務」，大力打造「博奇運維」行業品牌，擴展運維項目市場。優化特許經營及運營維護業務結構比重，提高集團盈利能力。面對當前電力煙氣脫硫脫硝進入深度治理階段，本集團將緊抓政策機遇，以市場為導向，利用自有技術，及豐富的項目經驗，努力耕耘非電領域，將集團「EPC+O&M」的一站式服務與鋼鐵行業客戶的實際需求充分結合，繼續夯實集團可持續經營發展的基礎。



(2) Further establish market presence for industrial wastewater treatment sector

The Group has actively responded to the ecological and environmental protection policies issued by national, ministerial and local authorities. Leveraging on the opportunity to improve water discharge standards, the Group has pursued its strategic goals, actively integrated its internal resources and acquired Lubao Sewage Treatment Center in 2019, successfully taking the first step of establishing a market presence in the industrial sewage treatment industry. In the future, the Group will leverage on the industrial technology and project experience of Lubao Sewage Treatment Center to nurture a team of professional talents, enhance technology reserves and further develop its industrial treatment business.

(3) Realizing the implementation of hazardous and solid waste treatment/disposal projects

As the country has attached great importance to the environmental protection industry and the environmental protection awareness among the public has been growing, coupled with the fact that the outbreak of COVID-19 has intensified the problem of the insufficiency of the capacity of treatment facilities to cope with the production of hazardous and solid waste and medical waste, the hazardous and solid waste treatment industry has gradually entered a rapid development phrase and has a promising prospect of industrial development. By seizing tightly the market opportunities, the Group will combine its actual needs and strategic positioning to actively make deployments in the Beijing-Tianjin-Tangshan regional market and roll out its specific projects. In addition, the Group will also enter new business areas through various forms of technical cooperation, investment, mergers and acquisitions.

(2) 進一步佈局工業污水處理領域

本集團積極響應國家、部委、地方的生態環境保護政策，以水排放標準提升為契機，推動集團戰略目標，積極整合集團內部資源，2019年收購潞寶污水處理中心，成功邁出了工業污水治理行業佈局的第一步。未來本集團將借助潞寶污水處理中心的工業技術和項目經驗，培養專業人才隊伍，提高技術儲備，進一步發展工業污水處理業務。

(3) 實現危固廢處理處置項目落地

隨着國家對環保產業的高度重視，民眾環保意識的增強，加之新冠疫情爆發，致使危固廢、醫廢產量與處理設施能力嚴重不足的矛盾凸顯，危固廢處理行業逐漸步入快速發展期。行業面臨良好的產業發展機會。本集團將緊緊抓住市場機遇，結合集團實際需求及戰略定位，積極佈局京津唐區域市場，落地具體項目，並通過技術合作、投資、併購等多種形式，進入新業務領域。



Management Discussion and Analysis (Continued)

管理層討論與分析（續）

SIGNIFICANT INVESTMENTS HELD, MATERIAL ACQUISITIONS AND DISPOSALS

On 10 June 2019, the Group completed the acquisition of a sewage treatment centre in Lubao Industrial Park, Lucheng City, Shanxi Province of the PRC, for a total cash consideration of RMB300 million.

Save for those disclosed above, the Group had no significant investments held or material acquisitions and disposals of subsidiaries and associated companies during the 2019 Financial Year.

EMPLOYEE AND REMUNERATION POLICIES

As at 31 December 2019, the Group had 1,950 employees in total (2018: 1,800 employees), substantially all of whom were based in the PRC. The Group has established labor union branches. Currently, the Group has entered into employment contracts with all employees, in which the position, duties, remuneration, employment benefits, training, confidentiality obligations relating to trade secrets and grounds for termination, among other things are specified pursuant to PRC Labor Law and other relevant regulations.

The remuneration package of the employees includes salaries, bonuses and allowances. Our employees also receive supplemental medical provision, transportation allowances, meal allowances and other benefits. The Company carries out employee performance appraisals and establishes diversified and dynamic appraisal mechanisms. The department heads' salaries and remunerations will be adjusted corresponding to the results of their performance appraisals. In compliance with applicable PRC regulations, the Company has contributed to social insurance funds, including pension plans, medical insurance, work-related injury insurance, unemployment insurance and maternity insurance, and housing funds for all its employees.

持有的重大投資、重大收購事項及出售事項

於2019年6月10日，本集團完成收購位於中國山西省潞城市潞寶工業園的污水處理中心，總代價為人民幣300百萬元。

除上述者外，本集團於2019年財政年度內並無任何所持重大投資或附屬公司及聯營公司的重大收購及出售。

僱員及薪酬政策

於2019年12月31日，我們共聘用1,950名僱員（2018年：1,800名僱員），其中絕大多數僱員常駐中國。本集團均設有獨立工會分支。目前，本集團已與全部員工訂立了勞動合同，按照中國勞動法和其他相關法規的規定，明確約定了僱員的職位、職責、薪酬、員工福利、培訓、有關商業秘密的保密責任及終止理由等事項。

我們的員工的薪酬組合包括薪金、獎金、津貼。我們的員工亦享有補充醫療、交通補貼、午餐津貼及其他福利費。我們推行員工業績考核及建立了不同形式、靈活的考評機制，同時在管理層及項目經理崗位建立了崗位績效與相關負責人的工資薪酬相匹配的機制。我們已按國家要求為員工繳納社保基金（包括養老保險、基本醫療保險、工傷保險、失業保險及生育保險）及住房公積金。



MAJOR SUBSEQUENT EVENTS

On 15 January 2020, Jiangxi Jinggangshan Boqi Environmental Technology Co., Ltd.* (江西井岡山博奇環保科技有限公司) (“**Jinggangshan Boqi**”) as lessee and CITIC Financial Leasing Co. Ltd.* (中信金融租賃有限公司) (“**CITIC Leasing**”) as lessor entered into a finance lease arrangement, pursuant to which (i) CITIC Leasing agreed to purchase and Jinggangshan Boqi agreed to dispose certain desulfurization and denitrification equipment at the consideration of RMB90 million; and (ii) CITIC Leasing agreed to lease the Jinggangshan Equipment to Jinggangshan Boqi for a term of five years, at an estimated total amount of approximately RMB108 million, being the sum of an one-off handling fee of approximately RMB4 million, plus an estimated lease payment of RMB104 million.

On the even date, Changjizhou Boqi Environmental Technology Co., Ltd.* (昌吉州博奇環保科技有限公司) (“**Changjizhou Boqi**”) as lessee and CITIC Leasing (as lessor) entered into a finance lease arrangement, pursuant to which (i) CITIC Leasing agreed to purchase and Changjizhou Boqi agreed to dispose certain desulfurization and denitrification equipment at the consideration of RMB260 million; and (ii) CITIC Leasing agreed to lease the Changjizhou Equipment to Changjizhou Boqi for a term of five years, at an estimated total amount of approximately RMB311 million, being the sum of an one-off handling fee of RMB12 million, plus an estimated lease payment of approximately RMB299 million.

Save as disclosed in this report, there are no major subsequent events to 31 December 2019 which would materially affect the Group’s operating and financial performance as of the date of this report.

主要期後事項

於2020年1月15日，江西井岡山博奇環保科技有限公司（「**井岡山博奇**」，作為承租人）與中信金融租賃有限公司（「**中信租賃**」，作為出租人）訂立融資租賃協議，據此(i)中信租賃同意購買而井岡山博奇同意出售若干脫硫及脫硝設備，代價為人民幣90百萬元；及(ii)中信租賃同意向井岡山博奇出租井岡山設備，租期為五年，估計總額約為人民幣108百萬元，包括一次性手續費用人民幣4百萬元另加估計租金約人民幣104百萬元。

於同日，昌吉州博奇環保科技有限公司（「**昌吉州博奇**」，作為承租人）與中信租賃（作為出租人）訂立融資租賃協議，據此(i)中信租賃同意購買而昌吉州博奇同意出售若干脫硫及脫硝設備，代價為人民幣260百萬元；及(ii)中信租賃同意向昌吉州博奇出租昌吉州設備，租期為五年，估計總額約為人民幣311百萬元，包括一次性手續費用人民幣12百萬元另加估計租金約人民幣299百萬元。

除本報告所披露者外，本公司於2019年12月31日後概無任何主要期後事項對本集團於本報告日期的經營及財務表現造成重大影響。

* for identification purposes only



Major Events for Boqi in 2019

2019年博奇公司大事記

MARCH 三月 2019

2019年3月，本集團簽訂第一個鋼鐵運維項目—津西鋼鐵運維項目。

In March 2019, the Group signed the first steel operation and maintenance project, the Jinxi Iron and Steel O&M Project.



APRIL 四月 2019

2019年4月，本集團簽訂巴基斯坦LUCKY 660MW燃煤電站煙氣脫硫項目。

In April 2019, the Group signed LUCKY 660MW flue gas desulfurization project of coal-fired power station in Pakistan.

2019年4月3日，為了保證廣西來賓BOO項目的順利進行，來賓博奇環保科技有限公司註冊成立。

On 3 April 2019, to ensure the smooth progress of Guangxi Laibin BOO Project, Laibin Boqi Environmental Protection Technology Co., Ltd. (來賓博奇環保科技有限公司) was established.





MAY 五月 2019

2019年5月29日，本公司召開年度股東大會。

On 29 May 2019, the Company held an annual general meeting of Shareholders.

JUNE 六月 2019

2019年6月10日，公司簽署山西潞寶工業園區污水處理中心資產收購協議，並成功開拓本集團的新業務板塊。

On 10 June 2019, the Company entered into the asset acquisition agreement of sewage treatment center of Shanxi Lubao Industrial Park, and successfully explored the new business segment of the Group.



2019年6月24日，長治博奇環保科技有限公司註冊成立，保證潞寶污水處理中心項目的順利進行並開拓當地環境治理市場。

On 24 June 2019, Changzhi Boqi Environmental Protection Technology Co. Ltd. was incorporated, with an aim to ensure the smooth operation of the Lubao sewage treatment center and explore the local environmental governance market.





Major Events for Boqi in 2019 (Continued)

2019年博奇公司大事記（續）

NOV 十一月 2019

2019年11月21日，參加「2019年北極星十大煙氣治理企業評選」，公司獲得「十大鋼鐵脫硫企業獎」、「十大鋼鐵脫硝企業獎」。

On 21 November 2019, the Company participated in the selection of the top ten most influential flue gas treatment enterprises in the “2019 North Star Cup” and was awarded the “Top Ten Steel Desulfurization Enterprise Award” and “Top Ten Steel Denitrification Enterprise Award”.



2019年11月，南陽項目部被評為「電力安全生產標準化一級工程建設項目」。

In November 2019, Nanyang Project was accredited as the “First-Level Engineering Construction Project for Power Construction Safety Standardization”.



DEC 十二月 2019

2019年12月·山西永濟「上大壓小」
2×350MW熱電聯產工程榮獲2018-2019
年度國家優質工程獎。

In December 2019, Shanxi Yongji
“Constructing Large Unite and
Restricting Small Ones” 2x350MW
Thermal Power Cogeneration Project
was awarded the 2018-2019 China
Quality Project Award.

2019年12月·廣西欽州電廠二
期擴建工程（2×1000MW）榮獲
2018-2019年度國家優質工程獎。

In December 2019, Guangxi
Qinzhou Power Plant Phase II
Expansion Project (2×1000 MW)
was awarded the 2018-2019 China
Quality Project Award.





CORPORATE GOVERNANCE REPORT

企業管治報告

The Board is pleased to present this corporate governance report in the annual report of the Company for the year ended 31 December 2019.

Corporate Governance Code

The Company's Shares have been listed on The Stock Exchange of Hong Kong Limited (the "**Stock Exchange**") since 16 March 2018 (the "**Listing Date**"). The Company is committed to maintaining high standards of corporate governance to safeguard the interests of the Shareholders and to enhance corporate values and accountability. The Company has adopted the Corporate Governance Code (the "**CG Code**") as set out in Appendix 14 to the Listing Rules (the "**Listing Rules**"). In addition, the Board unanimously approved on 20 December 2018 to adopt the Stock Exchange's amendments to the CG Code and the Listing Rules with effect from 1 January 2019 and implement its application.

Save as disclosed herein, the Company complied with the code provisions as set out in the CG Code during the period from the Listing Date to the date of this annual report (the "**Period**"). The Company will continue to review and enhance its corporate governance practices to ensure compliance with the CG Code.

Model Code for Securities Transactions

The Company has adopted the Model Code for Securities Transactions by Directors of Listed Issuers as set out in Appendix 10 to the Listing Rules (the "**Model Code**") as its code of conduct regarding dealings in the securities of the Company. Having made specific enquiry to all the Directors, all Directors confirmed that they had strictly complied with the required standards set out in the Model Code during the Reporting Period.

The Board has also adopted the Model Code to regulate all dealings by employees who are likely to be in possession of unpublished inside information of the Company in respect of securities in the Company as referred to in code provision A.6.4 of the CG Code. No incident of non-compliance with the Model Code by the Company's relevant employees was noted during the Reporting Period after making reasonable enquiry.

董事會欣然呈列本公司截至2019年12月31日止年度之年報所載企業管治報告。

企業管治守則

本公司股份已自2018年3月16日（「上市日期」）起於香港聯合交易所有限公司（「聯交所」）上市。本公司致力於維持高水平的企業管治，以保障股東權益以及提升企業價值及問責性。本公司已採納聯交所證券上市規則（「上市規則」）附錄十四所載的企業管治守則（「企業管治守則」）。此外，董事會於2018年12月20日一致審核，採納聯交所於2019年1月1日生效對《企業管治守則》及《上市規則》的修訂內容且實施其應用。

除本文披露者外，本公司自上市日期起直至本年報日期止期間（「該期間」）一直遵守企業管治守則所載的守則條文。本公司將繼續檢討並提升其企業管治常規，以確保遵守企業管治守則。

證券交易的標準守則

本公司已採納上市規則附錄10所載的上市發行人董事進行證券交易的標準守則（「標準守則」）作為買賣本公司證券的操守守則。經向本公司全體董事作出特定查詢後，全體董事確認彼等於期間已嚴格遵守標準守則所載的規定標準。

董事會亦已採納標準守則以規管可能獲知本公司非公開內幕消息之相關僱員進行有關本公司證券交易的所有行為（見企業管治守則守則條文第A.6.4條）。經作出合理查詢後，於期間內並未發現本公司之有關僱員未有遵守標準守則之情況。



THE BOARD

Responsibilities

The Board is responsible for the overall leadership of the Group, oversees the Group's strategic decisions and monitors business and performance. The Board has delegated the authority and responsibility for day-to-day management and operation of the Group to the senior management of the Group. To oversee particular aspects of the Company's affairs, the Board has established three Board committees including the audit committee (the "**Audit Committee**"), the remuneration committee (the "**Remuneration Committee**") and the nomination committee (the "**Nomination Committee**") (together, the "**Board Committees**"). The Board has delegated to the Board Committees responsibilities as set out in their respective terms of reference.

All Directors shall ensure that they carry out duties in good faith, in compliance with applicable laws and regulations, and in the interests of the Company and its shareholders at all times.

Directors' and Senior Management's Liability Insurance and Indemnity

The Company has arranged appropriate liability insurance to indemnify the Group's Directors and senior management for their liabilities arising out of corporate activities. The insurance coverage will be reviewed on an annual basis.

Board Composition

The Board currently comprises two executive Directors, namely Mr. Cheng Liquan Richard and Mr. Zeng Zhijun, three non-executive Directors, namely Mr. Zheng Tony Tuo, Mr. Zhu Weihang and Mr. Chen Xue and three independent non-executive Directors, namely Mr. Liu Genyu, Dr. Xie Guozhong and Mr. Lu Zhifang.

董事會

職責

董事會負責本公司的整體領導、監督本公司的戰略決定以及監察業務及表現。董事會向本公司高級管理層授出本公司日常管理及營運的權力及職責。為監察本公司事務特定範疇，董事會已設立三個董事委員會，包括審核委員會（「**審核委員會**」）、薪酬委員會（「**薪酬委員會**」）及提名委員會（「**提名委員會**」）（統稱「**董事委員會**」）。董事會已授予董事委員會載於其各自職權範圍的職責。

全體董事須確保彼等一直本著真誠、遵守適用法律及法規及符合本公司及其股東利益的方式履行職責。

董事及高級管理層的責任保險及彌償

本公司已為本公司董事及高級管理層安排適當的責任保險，以彌償其因從事企業活動而產生的責任，保險的保障範圍將於每年予以檢討。

董事會的組成

董事會目前由兩名執行董事（即程里全先生及曾之俊先生）、三名非執行董事（即鄭拓先生、朱偉航先生及陳學先生）及三名獨立非執行董事（即劉根鈺先生、謝國忠博士及陸志芳先生）組成。



Since the Listing Date and up to the date of this annual report, the Board at all times met the requirements of the Rules 3.10(1) and 3.10(2) of the Listing Rules relating to the appointment of at least three independent non-executive Directors with at least one independent non-executive Director possessing appropriate professional qualifications or accounting or related financial management expertise. Among the three independent non-executive Directors, Dr. Xie Guozhong has appropriate professional qualifications or accounting or related financial management expertise as required by Rule 3.10(2) of the Listing Rules.

Board Diversity Policy

Pursuant to the code provision A.5.6 of the CG Code, listed issuers are required to adopt a board diversity policy. The policy specifies that in designing the composition the Board, board diversity shall be considered from a number of aspects, including but not limited to gender, age, cultural and educational background, professional experience, skills and knowledge. The appointment of Directors will be based on meritocracy, and candidates will be evaluated against objective criteria, having due regard for the benefits of diversity of the Board. Selection of candidates will be based on a range of diversity perspectives, including but not limited to gender, age, culture, educational background, professional experience, knowledge and skills.

The composition of the Board will be disclosed in the Corporate Governance Report every year and the Nomination Committee will supervise the implementation of this policy. The Nomination Committee will review the effectiveness of this policy, as appropriate discuss any revisions that may be required, and recommend any such revisions to the Board for consideration and approval.

As at the date of this annual report, the diversity of the Board is illustrated as below. Further details on the biographies and experience of the Directors are set out on page 17 to page 24 of this annual report.

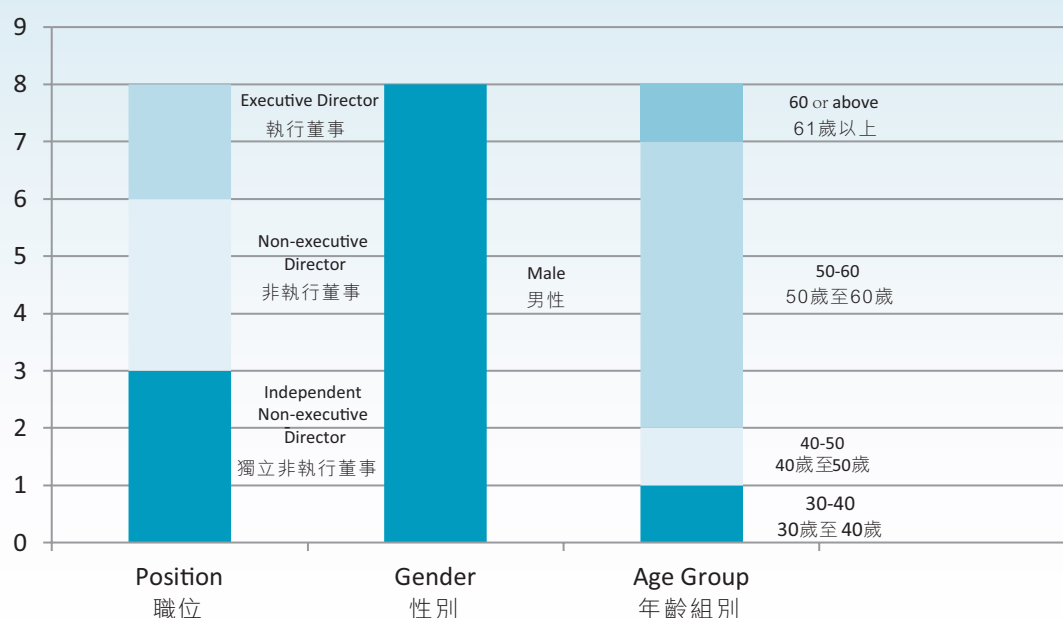
自上市日期起直至本年報日期止，董事會一直符合上市規則第3.10(1)及3.10(2)條，有關委任至少三名獨立非執行董事而當中至少一名獨立非執行董事須具備合適專業資歷或會計或相關財務管理專業知識的規定。於三名獨立非執行董事中，謝國忠博士具備上市規則第3.10(2)條所規定的合適專業資歷或會計或相關財務管理的專業知識。

董事會成員多元化政策

根據企業管治守則的守則條文A.5.6條，上市發行人須採納董事會成員多元化政策。該政策訂明董事會於設定董事會成員組合時會從多個方面考慮董事會成員多元化，包括但不限於性別、年齡、文化及教育背景、專業經驗、技能及知識。董事的委任均以用人唯才為原則，並在評估人選時考慮客觀條件妥善顧及董事會成員多元化的裨益。甄選董事會人選將按一系列多元化範疇為基準，包括但不限於性別、年齡、文化、教育背景、專業經驗、知識及技能。

本公司將每年在企業管治報告中披露董事會的組成。提名委員會將監察本政策的實施。提名委員會將在適當時候檢討本政策的成效，並討論任何或需作出的修訂，且就任何該等修訂向董事會提出建議，以供審議及批准。

於本年報日期，董事會成員多元化列示如下。有關董事履歷及經驗的進一步詳情載於本年報第17至24頁。



The Nomination Committee has reviewed the membership, structure and composition of the Board, and is of the opinion that the structure of the Board is reasonable, and the experiences and skills of the Directors in various aspects and fields can enable the Company to maintain high standard of operation.

Independence of the Independent Non-executive Directors

The Company has received written annual confirmation from each independent non-executive Director of his independence pursuant to the requirements of the Listing Rules. After the Board reviews the written annual confirmation from of all the non-executive Director of his independence, the Board considers them to be independent in accordance with the independence guidelines as set out in the Listing Rules. The Board is not aware of the occurrence of any events which would cause it to believe that the independence of any of the Independent non-Executive Directors has been impaired up to the date of this annual report.

None of the Directors has any personal relationship (including financial, business, family or other material/relevant relationship), with any other Director.

提名委員會已檢討董事會成員、架構及組成，認為董事會的架構合理，而董事亦具備多方面及多領域的經驗及技能，致使本公司維持高營運水平。

獨立非執行董事之獨立性

本公司已接獲各獨立非執行董事根據上市規則規定所作出有關其獨立身份的年度確認書。董事會已審閱全體獨立非董事的獨立性確認書，並認為，根據上市規則所載的獨立指引，彼等均為獨立人士。截至本年報日期，董事會並不知悉已發生任何事項，致使其相信任何獨立非執行董事之獨立性受損。

概無董事與任何其他董事有任何個人關係（包括財務、業務、家庭或其他重大／相關關係）。



All Directors, including independent non-executive Directors, have brought a wide spectrum of valuable business experience, knowledge and professionalism to the Board for its efficient and effective functioning. Independent non-executive directors are invited to serve on the Audit Committee, the Remuneration Committee and the Nomination Committee.

In regard to the CG Code provision requiring directors to disclose the number and nature of offices held in public companies or organizations and other significant commitments as well as their identity and the time involved to the issuer, Directors have agreed to disclose their commitments to the Company in a timely manner.

Induction and Continuous Professional Development

Pursuant to code provision A.6.5 of the CG Code, all Directors should participate in continuous professional development to develop and refresh their knowledge and skills to ensure that their contribution to the Board remains informed and relevant.

Each newly appointed Director has been provided with necessary induction and information to ensure that he has a proper understanding of the Company's operations and businesses as well as his responsibilities under relevant statutes, laws, rules and regulations.

In this reporting period, all the Directors (Mr. Cheng Liquan Richard, Mr. Zeng Zhijun, Mr. Zheng Tony Tuo, Mr. Zhu Weihang, Mr. Chen Xue, Mr. Liu Genyu, Mr. Xie Guozhong and Mr. Lu Zhifang) have attended the training courses conducted by the legal adviser of the Company, William Ji & Co. LLP (in Association with Tian Yuan Law Firm Hong Kong Office). The content of such training related to the recent regulatory policies for listed companies. According to it, all the Directors have been updated with the latest developments regarding the Listing Rules and other applicable regulatory requirement to ensure compliance and enhance their awareness of good corporate governance practices. In addition, continuing briefing and professional development to Directors will be arranged whenever necessary.

全體董事 (包括獨立非執行董事) 均為董事會帶來多種領域的寶貴業務經驗、知識及專業技能，使其高效及有效地運作。獨立非執行董事獲邀成為審核委員會、薪酬委員會及提名委員會的一員。

就企業管治守則條文而言，董事須披露於公眾上市公司或機構所擔任職務的數目及性質以及其他重大職務承擔，以及彼等於發行人公司任職的身份及時間，而董事已同意適時向本公司披露其職務承擔。

入職培訓及持續專業發展

根據企業管治守則的守則條文A.6.5條，全體董事須參與持續專業發展，以發展及更新彼等的知識及技能，藉此確保彼等對董事會所作貢獻為知情及相關。

每名新委任董事均已獲提供必要的入職培訓及數據，確保其對本公司營運及業務以及其於相關條例、法律、規則及法規的責任有適當程度的了解。

於本報告期內，全體董事 (程里全先生、曾之俊先生、鄭拓先生、朱偉航先生、陳學先生、劉根鈺先生、謝國忠先生及陸志芳先生) 均已參與由本公司法律顧問紀曉東律師行 (天元律師事務所香港分所聯營所) 提供的培訓課程，而培訓內容有關近期上市公司的監管政策。據此，全體董事已獲悉有關上市規則及其他適用監管規定的最新發展，確保遵守有關規定及提高彼等對良好企業管治常規的意識。此外，本公司將於有需要時為董事安排持續簡報及專業發展。



Chairman and Chief Executive Officer

Under the code provision A.2.1 of the CG Code, the roles of chairman and chief executive officer should be separated and performed by different individuals. The positions of chairman and chief executive officer are held by Mr. Cheng and Mr. Zeng, respectively. The chairman provides the overall strategic planning and direction of the Group and is responsible for the effective functioning and leadership of the Board. The chief executive officer focuses on the Company's business development and the daily management and operations generally.

Appointment and re-election of Directors

Each of the executive Directors has entered into a service contract with the Company for a term of three years commencing from 28 February 2018.

Each of the non-executive Directors and the independent non-executive Directors has signed an appointment letter with the Company for a term of three years commencing from 28 February 2018.

None of the Directors has a service contract which is not determinable by the Group within one year without payment of compensation (other than statutory compensation).

In accordance with the Company's amended and restated memorandum and articles of association, at each annual general meeting, one-third of the Directors for the time being shall retire from office by rotation provided that every Director shall be subject to retirement at least once every three years. Shareholders of the Company entitled to vote at the annual general meeting for the election of Directors will elect a Board consisting of at least the minimum number of Directors set under the articles of association of the Company and all the Directors shall cease to hold office immediately before such election, but are eligible for re-election at such meeting.

主席及行政總裁

企業管治守則的守則條文A.2.1條規定主席與行政總裁的角色應有區分，不應由同一人擔任。主席與行政總裁的職位分別由程先生及曾先生擔任。主席提供本集團的整體策略規劃及指導，並負責董事會有效運作及領導。行政總裁一般專注於本公司業務發展及日常管理與營運。

董事委任及重選

各執行董事已與本公司訂立服務合約，任期自2018年2月28日起計為期三年。

各非執行董事及獨立非執行董事已與本公司簽訂委聘書，任期自2018年2月28日起計為期三年。

概無董事訂立本公司不可於一年內在毋須支付賠償（法定賠償除外）的情況下終止的服務合約。

根據本公司的經修訂及經重列的組織章程大綱及組織章程細則，於每屆股東週年大會上，當時三分之一之董事須輪值退任，惟各董事須最少每三年於股東週年大會上輪值退任一次。有權於股東週年大會上投票選出董事的本公司股東將選出董事會，董事會須至少由本公司組織章程細則所定最少數目的董事組成，而全體董事將於緊接有關選舉前離任，惟有資格於該大會上獲重選連任。



The procedures and process of appointment, re-election and removal of directors are set out in the Company's amended and restate memorandum and articles of association. The Nomination Committee is responsible for reviewing the Board composition, monitoring and make recommendations to the Board on the appointment, re-election and succession planning of Directors, in particular the chairman and the chief executive officer.

Board Meetings

The Company adopts the practice of holding board meetings regularly, at least four times a year, and at approximately quarterly intervals. Notices of not less than fourteen days are given for all regular board meetings to provide all Directors with an opportunity to attend and include matters in the agenda for a regular meeting. For other Board and committee meetings, reasonable notice is generally given. The agenda and accompanying board papers are dispatched to the Directors or committee members at least three days before the meetings to ensure that they have sufficient time to review the papers and be adequately prepared for the meetings. When directors or committee members are unable to attend a meeting, they will be advised of the matters to be discussed and given an opportunity to make their views known to the Chairman prior to the meeting. Minutes of meetings are kept by the Company with copies circulated to all Directors for information and records.

Minutes of the board meetings and committee meetings are recorded in sufficient detail the matters considered by the Board and the committees and the decisions reached, including any concerns raised by the Directors. Draft minutes of each board meeting and committee meeting are sent to the Directors for comments within a reasonable time after the date on which the meeting is held. The minutes of the board meetings are available for inspection by Directors.

委任、重選及罷免董事的程序及過程載於本公司的經修訂及重列組織章程大綱及細則。提名委員會負責檢討董事會的組成、監察並就董事（尤其是主席及行政總裁）的委任、重選及繼任計劃向董事會提供推薦意見。

董事會會議

本公司採納定期舉行董事會會議的慣例，即每年至少舉行四次會議及大致按季度舉行會議。所有董事會例行會議通知會於至少14日前送呈全體有機會出席會議的董事，並使其可於是次例行會議議程內加載有關事宜。就其他董事會及委員會會議而言，本公司一般會發出合理通知。議程及相關董事會附件將於會議舉行前至少3日寄發予董事或委員會成員，以確保彼等有充足時間審閱有關文件及為會議作充分準備。倘董事或委員會成員未能出席會議，則彼等會獲告知將予討論的事宜及於會議舉行前有機會讓主席獲悉彼等之意見。會議記錄會由本公司保存，而副本將於全體董事間傳閱，以供參考及記錄。

董事會會議及委員會會議的記錄會充分詳盡記錄董事會及委員會所審議的事宜及所達致的決定，包括董事提出的任何疑慮。各董事會會議及委員會會議的記錄草擬本將於會議舉行當日後的合理時間內寄送至各董事，以供彼等發表意見。董事會會議的記錄可供董事公開查閱。



For the year ended 31 December 2019, four board meetings were held and the details are set out in the table below:

截至2019年12月31日止年度，董事會曾舉行四次董事會會議，具體情況如下：

Directors	Attendance/number of meetings held
董事	已出席次數/ 舉行會議次數
Mr. Cheng Liquan Richard 程里全先生	4/4
Mr. Zeng Zhijun 曾之俊先生	4/4
Mr. Zheng Tony Tuo 鄭拓先生	4/4
Mr. Zhu Weihang 朱偉航先生	4/4
Mr. Chen Xue 陳學先生	4/4
Mr. Liu Genyu 劉根鈺先生	4/4
Dr. Xie Guozhong 謝國忠博士	4/4
Mr. Lu Zhifang 陸志芳先生	4/4

Apart from formal meetings, other matters subject to the approval of the Board were handled in the form of written resolutions.

除正式會議外，其他須董事會批准的事宜以傳閱書面決議案方式處理。



Delegation by the Board

The Board reserves its decision for all major matters of the Company, including: approval and monitoring of all policy matters, overall strategies and budgets, internal control and risk management systems, material transactions (in particular those that may involve conflict of interests), financial information, appointment of Directors and other significant financial and operational matters. Directors could have recourse to seek independent professional advice in performing their duties at the Company's expense and are encouraged to consult with the Company's senior management independently.

The daily management, administration and operation of the Group are delegated to the senior management. The delegated functions and responsibilities are periodically reviewed by the Board. Approval has to be obtained from the Board prior to any significant transactions entered into by the management.

BOARD COMMITTEES

The Board has established three Board committees to strengthen its functions and corporate governance practices, namely, the Audit Committee, the Nomination Committee and the Remuneration Committee. The Audit Committee, the Nomination Committee and the Remuneration Committee perform their specific roles in accordance with their respective written terms of reference.

董事會的授權

董事會對本公司所有重大事宜保留決策權，包括：批准及監督一切政策事宜、整體策略及預算、內部監控及風險管理制度、重大交易（特別是可能牽涉利益衝突的交易）、財務數據、委任董事及其他主要財務及營運事宜。董事於履行彼等職責時可尋求獨立專業意見，費用由本公司承擔，且本公司亦鼓勵董事向本公司高級管理層進行獨立諮詢。

本公司的日常管理、行政及營運授權予高級管理層負責。授權職能及職責由董事會定期檢討。管理層訂立任何重大交易前須取得董事會批准。

董事委員會

董事會已成立三個董事會委員會，以加強其職能及企業管治常規，分別為審核委員會、提名委員會及薪酬委員會。審核委員會、提名委員會及薪酬委員會均按照其各自之書面職權範圍履行彼等之特定角色。



Audit Committee

The Audit Committee comprises three members, namely Dr. Xie Guozhong (chairman), Mr. Liu Genyu and Mr. Zheng Tony Tuo, all of them are non-executive Directors and the majority are independent non-executive Directors. The primary duties of the Audit Committee include examining independently the financial positions of the Company, overseeing the Company's financial reporting system, risk management and internal control system, the audit process and proposals of internal management, communicating independently with, monitoring and verifying the work of internal audit and external auditors.

For the year ended 31 December 2019, two meetings of the Audit Committee was held and the details are as follows:

審核委員會

審核委員由三名成員組成，即謝國忠博士（主席）、劉根鈺先生及鄭拓先生，全部成員均為非執行董事及大部分成員為獨立非執行董事。審核委員會的主要職責包括獨立審查本公司的財務狀況、監察本公司的財務報告系統、風險管理及內部監控系統、審計過程及內部管理建議、與內部審計核數師及外聘核數師獨立溝通，並監督及核實彼等的工作。

截至2019年12月31日止年度，審核委員會曾舉行兩次會議，具體情況如下：

Directors	Attendance/number of meetings held
董事	已出席次數/ 舉行會議次數
Dr. Xie Guozhong (Chairman) 謝國忠博士（主席）	2/2
Mr. Liu Genyu 劉根鈺先生	2/2
Mr. Zheng Tony Tuo 鄭拓先生	2/2



CORPORATE GOVERNANCE REPORT (Continued)

企業管治報告 (續)

The Audit Committee reviewed the financial reporting system, compliance procedures, internal control (including the adequacy of resources, staff qualifications and experience, training programmes and budget of the Company's accounting and financial reporting function), risk management systems and processes and the reappointment of the external auditor and fulfilled the aforementioned duties as required. The Board had not deviated from any recommendation given by the Audit Committee on the selection, appointment, resignation or dismissal of external auditor.

They also reviewed annual results of the Company and its subsidiaries for the fiscal year as well as the audit report prepared by the external auditor relating to accounting issues and major findings in course of audit. There are proper arrangements for employees, in confidence, to raise concerns about possible improprieties in financial reporting, internal control and other matters. The written terms of reference of the Audit Committee are available on the websites of the Company and the Stock Exchange.

Nomination Committee

The Nomination Committee currently comprises three members, namely Mr. Cheng Liquan Richard (chairman), Dr. Xie Guozhong and Mr. Lu Zhifang, the majority of them are independent non-executive Directors.

The primary duties of the Nomination Committee are to review the structure, size and composition of the Board at least annually and make recommendations on any proposed changes to the Board to complement the Company's corporate strategy, to make recommendation to the Board regarding candidates to fill vacancies on the Board and/or in the management, and to assess the independence of the independent non-executive Directors.

審核委員會檢討財務申報制度、合規程序、內部監控 (包括本公司在會計及財務申報職能方面的資源、員工資歷及經驗是否足夠, 以及培訓課程及預算是否充足)、風險管理制度及程序以及外聘核數師的續聘及履行上述規定的職責。董事會並無偏離審核委員會就挑選、委任、辭退或罷免外聘核數師所提供的任何建議。

彼等亦審閱本公司及其附屬公司於財政年度的年度業績以及由外聘核數師所編製有關審計過程中的會計事項及重大發現的審計報告。該委員會為僱員作出適當安排, 讓彼等可以保密方式就財務申報、內部監控及其他事宜可能出現的不當行為提出疑問。審核委員會的書面職權範圍可於本公司及聯交所網站查閱。

提名委員會

提名委員會目前由三名成員組成, 即程里全先生 (主席)、謝國忠博士及陸志芳先生, 大部份成員均為獨立非執行董事。

提名委員會的主要職責為至少每年檢討董事會的架構、規模及組成, 並就董事會為配合本公司的企業策略所作出的任何建議變動提供建議、就填補董事會及/或管理層空缺的人選向董事會提供建議, 並評估獨立非執行董事的獨立性。



The Nomination Committee will assess the candidate or incumbent on criteria such as integrity, experience, skill and ability to commit time and effort to carry out the duties and responsibilities. The recommendations of the Nomination Committee will then be put to the Board for decision. Their written terms of reference are available on the websites of the Stock Exchange and the Company.

提名委員會將按標準評估候選人或現任人，如誠信、經驗、技能及投入時間和精力以履行職責及責任的能力。提名委員會的推薦建議隨後將提呈予董事會作出決定。書面職權範圍可於聯交所及本公司網站查閱。

For the year ended 31 December 2019, the meeting of the Nomination Committee was held on 26 March 2019 to review and approve the Group's Board diversity policy; review and evaluate the independence of the Group's independent non-executive Directors; review and approve the re-election of relevant Directors at the annual general meeting. The details of their attendance are as follows:

截至2019年12月31日止，提名委員會於2019年3月26日舉行會議，審議並批准有關本集團董事會多元化政策；審核並評估本集團獨立非執行董事的獨立性；審議並批准相關董事在股東周年大會上重選連任。其出席詳情如下：

Directors	Attendance/number of meetings held
董事	已出席次數/ 舉行會議次數
Mr. Cheng Liquan Richard (Chairman) 程里全先生 (主席)	1/1
Dr. Xie Guozhong 謝國忠博士	1/1
Mr. Lu Zhifang 陸志芳先生	1/1

The Nomination Committee assessed the independence of independent non-executive Directors, considered the re-appointment of the retiring Directors, reviewed the time commitment required from the non-executive Director and fulfilled duties as required aforesaid.

提名董事會評估獨立非執行董事的獨立性、審議退任董事的重選事宜，以及檢討擔任非執行董事所需投入的時間並履行上述規定的職責。



The Board has adopted a Board diversity policy (the “Policy”) in accordance with the requirements of the Listing Rules with effect from 29 March 2018 which sets out the approach to achieve diversity on the Board. All Board appointments shall be based on meritocracy, and candidates will be considered against selection criteria, having regard for the benefits of diversity on the Board. Selection of candidates will be based on range of diversity perspectives, which would include but not limited to gender, age, cultural and educational background, ethnicity, professional experience, skills, knowledge and length of service. The ultimate decision will be based on merit and contribution that the selected candidates will bring to the Board. The Nomination Committee will monitor the implementation of the Policy and will from time to time review the Policy, as appropriate, to ensure the effectiveness of the Policy.

Remuneration Committee

The Remuneration Committee comprises three members, namely Mr. Lu Zhifang (chairman), Mr. Liu Genyu and Mr. Zeng Zhijun, the majority of them are independent non-executive Directors.

The primary duties of the Remuneration Committee are to recommend the Board on the Group’s remuneration policy and structure for the Directors and senior management remuneration and on the establishment of a formal and transparent procedure for developing remuneration policy, to review and approve the management’s remuneration proposals with reference to the Board’s corporate goals and objectives, and to make recommendations to the Board on the remuneration packages of the executive Directors and senior management.

The written terms of reference of the Remuneration Committee are available on the websites of the Stock Exchange and the Company.

董事會已按照上市規則之規定於2018年3月29日採納董事會成員多元化政策(「該政策」)，當中載列董事會為達致其成員多元化而採取之方針。董事會成員之委任均以用人唯才為原則，並在考慮人選時以充分顧及董事會成員多元化之裨益為甄選準則。甄選人選將按一系列多元化範疇為基準，包括但不限於性別、年齡、文化及教育背景、種族、專業經驗、技能、知識及服務任期。最終將按人選的長處及可為董事會提供之貢獻而作決定。提名委員會將監察該政策的執行，並將不時在適當時候檢討該政策，以確保該政策行之有效。

薪酬委員會

薪酬委員會由三名成員組成，即陸志芳先生(主席)、劉根鈺先生及曾之俊先生，大部份成員為獨立非執行董事。

薪酬委員會的主要職責為就本集團董事及高級管理層薪酬的薪酬政策及架構向董事會提供建議，並就制定薪酬政策設立正式及透明的程序，且參照董事會的企業目標及宗旨檢討及批准管理層薪酬建議，以及就執行董事及高級管理層的薪酬待遇向董事會提供建議。

薪酬委員會的書面職權範圍可於聯交所及本公司網站查閱。



For the year ended 31 December 2019, the meeting of the Remuneration Committee was held on 26 March 2019 to review and approve the remuneration of the Directors and senior management of the Group, and the details are as follows:

截至2019年12月31日止年度，薪酬委員會於2019年3月26日舉行會議，審議並批准有關本集團董事及高級管理層的薪酬。其出席詳情如下：

Directors	Attendance/number of meetings held
董事	已出席次數／ 舉行會議次數
Mr. Zeng Zhijun 曾之俊先生	1/1
Mr. Lu Zhifang (Chairman) 陸志芳先生(主席)	1/1
Mr. Liu Genyu 劉根鈺先生	1/1

The Remuneration Committee discussed and reviewed the remuneration policy for Directors and senior management of the Company, made recommendations to the Board on the remuneration packages of individual executive Directors and senior management and fulfilled duties as required aforesaid.

薪酬委員會討論及檢討本公司董事及高級管理層的薪酬政策，以及就個別執行董事及高級管理層的薪酬待遇向董事會提供建議並履行上述規定的職責。

Details of the remuneration by band of the members of senior management of the Company, whose biographies are set out on page 25 to page 33 of this annual report, for the year ended 31 December 2019 are set out in the Independent Auditor's Report on page 304 to page 308 of this annual report.

截至2019年12月31日止年度，本公司高級管理層成員（其履歷載於本年報第25至33頁）按組別劃分的薪酬詳情載列於本年報第304至308頁的獨立核數師報告內。

DIRECTORS' RESPONSIBILITIES FOR FINANCIAL REPORTING IN RESPECT OF FINANCIAL STATEMENTS

董事有關財務報表的財務申報責任

The Directors acknowledge their responsibility for preparing the financial statements for the 2019 Financial Year which give a true and fair view of the affairs of the Company and the Group and of the Group's results and cash flows.

董事已知悉，彼等有責任編製2019財政年度的財務報表，以真實公平地反映本公司及本集團的事務狀況以及本集團的業績及現金流量。



The management has provided to the Board such explanation and information as are necessary to enable the Board to carry out an informed assessment of the Company's financial statements, which are put to the Board for approval. The Company provides all members of the Board with monthly updates on Company's performance, positions and prospects.

The Directors were not aware of any material uncertainties relating to events or conditions which may cast significant doubt upon the Group's ability to continue as a going concern.

The statement by the auditor of the Company regarding their reporting responsibilities on the financial statements of the Company is set out in the Independent Auditor's Report on page 217 to page 221 of this annual report.

INTERNAL CONTROL AND RISK MANAGEMENT

The Board is responsible for maintaining an adequate risk management and internal control systems to safeguard Shareholders' investments and Company's assets and with the support of the Audit Committee, reviewing the effectiveness of such systems on an annual basis. The Company has implemented various internal control and risk management policies, including Asset Depreciation Provision Management Policy, Inventory Management Policy and Financing and Guarantee Management Policy. Furthermore, we also sponsor our internal control staff to attend risk management and internal control related trainings every year. The risk management and internal control policies are designed to help achieve business objectives, safeguarding assets against unauthorised use, and maintaining proper accounting records for the provision of reliable financial information for internal use and for publication. The establishment of risk management and internal control systems is to provide reasonable, but not absolute, assurance against material misstatement of financial statements or loss of assets and to manage rather than eliminate risks of failure in operational systems and achievement of the Group's objectives.

管理層向董事會提供必要的闡釋及數據，致使董事會能對提呈予董事會批准的本公司財務報表進行知情的評估。本公司每月向董事會全體成員提供有關本公司表現、狀況及前景的最新資料。

董事並不知悉，任何有關可能對本公司持續經營能力嚴重存疑的事件或情況的重大不確定因素。

本公司核數師就彼等對本公司財務報表申報責任的聲明載於本年報第217至221頁的獨立核數師報告內。

內部監控及風險管理

董事會負責維持充分的風險管理及內部監控系統，以保障股東投資及本公司的資產，並在審核委員會的支持下，每年檢討有系統的效率。本公司已落實多項內部控制及風險管理政策，其中包括資產折舊撥備管理政策、存貨管理政策及融資擔保管理政策。此外，我們每年亦組織內部控制員工參加風險管理和內部控制相關培訓。風險管理及內部監控系統已予制訂，以助達成業務目標、保障資產免受到未經授權的使用及存置恰當會計紀錄，以提供可靠的財務數據作內部及刊發之用。設立內部控制及風險管理政策防止財務報表之重大失實聲明或資產損失，及管理（而非消除）營運系統失效及未能達成本集團業務目標的風險。



The Company's operation planning department is responsible for the internal control and risk management of the Company's business operations. The internal audit department is responsible for the internal audit of the Company. The Company has also engaged external consultants to perform a review of the internal control and risk management systems of the Group. With the assistance of the external consultants, the operation planning department, the internal control department and the internal audit department of the Company, the Company is able to take mitigating and remedial measures to address the identified risks and such actions and measures are integrated in the day-to-day activities of the Group and their effectiveness is closely monitored. The internal audit, internal control and risk management systems and policies are reviewed by the Board on an ongoing basis in order to make it practical and effective in providing reasonable assurance in relation to the identification of business risks.

The Company has put in place a policy on handling and dissemination of inside information which sets out the procedures and internal controls for handling and dissemination of inside information in a timely manner in such a way to avoid placing any person in a privileged dealing position. The inside information policy also provides guidelines to employees of the Group to ensure proper safeguards exist to prevent the Company from breaching the statutory and listing rule disclosure requirements. The Company has appropriate internal control and reporting systems to identify and assess potential inside information. Dissemination of inside information of the Company shall be conducted by publishing the relevant information on the websites of the Stock Exchange and the Company, according to the requirements of the Listing Rules.

本公司的經營計劃部負責本公司業務營運中的內部控制及風險管理。內部審計部負責本公司的內部審計。本公司亦已聘請外部顧問對本集團的內部監控及風險管理系統進行檢討。在外部顧問、本公司經營計劃部、內部監控部及內部審計部的協助下，本公司能夠採取緩解及補救措施處理已識別的風險。該等行動及措施乃整合於本集團的日常活動中，而其效用受密切監察。董事會持續檢討內部審計、內部監控及風險管理系統，使其有效可行並對識別業務風險提供合理保證。

本公司已訂立一項處理及發佈內幕消息的政策，列出處理及發佈內幕消息的程序及內部監控，使內幕消息得以適時處理及發佈，而不會導致任何人士在證券交易上處於佔優的地位。內幕消息政策亦為本集團僱員提供指引，確保設有適當的措施，以預防本公司違反法定及上市規則的披露規定。本公司設有適當的內部監控及彙報制度，識別及評估潛在的內幕消息。根據上市規則的規定，本公司發佈內幕消息，會透過聯交所及本公司網站刊登相關消息。



The Audit Committee assists the Board in the review, which covers operational, financial and compliance controls, internal audit and risk management functions, to maintain an adequate and effective internal control system to safeguard the interests of the shareholders and the assets of the Group. For the 2019 Financial Year, the Board conducted an annual review of the effectiveness of the internal control system of the Group by, including but not limited to, considering a written report prepared by the external consultants to the Audit Committee covering the above aspects. The Board has also considered the adequacy of resources, qualifications and experience of staff of the Company's accounting and financial reporting function, and their training programme and budget during the year under review. The Board is not aware of any significant internal control and risk management weaknesses nor significant breach of limits or risk management policies, and considers that the current monitoring systems of the Company are effective and that the qualifications and experience of the staff, performing accounting and financial reporting functions and the training programmes of the Company as well as the experiences and resources for setting the budget of the Company are adequate. The Company has complied with the requirements under C.2.1 to C.2.5 and C.3.3 of the CG Code relating to risk management and internal control since the Listing Date.

AUDITOR'S REMUNERATION

Deloitte Touche Tohmatsu ("Deloitte") was appointed as the Company's auditor to audit the financial statements of the Company for the year ended 31 December 2019 prepared in accordance with IFRSs. During the year under review, the fees paid to Deloitte for audit services amounted to RMB2,600,000.

審核委員會亦協助董事會進行有關維持足夠及有效之內部監控系統的審閱，當中涵蓋營運、財務及合規監控內部審計、以及風險管理功能，以保障股東及本集團資產之利益。於2019年財政年度，董事會已透過（其中包括但不限於）考慮外部顧問向審核委員會編製之書面報告對本集團內部監控系統之成效進行年度檢討，範圍涵蓋上述各方面。於回顧年度，董事會亦已考慮本公司在會計及財務報告職能方面之資源、員工資歷及經驗是否足夠，以及員工所接受之培訓課程及有關預算是否充足。董事會並未發現任何重大內部監控及風險管理缺陷，亦未發現重大違反限制或風險管理政策之情況，並認為本公司目前的監控系統有效，且本公司員工的資歷和經驗、會計及財務呈報職能的履行，以及本公司的培訓課程及本公司有關預算方面的經驗和資源足夠。本公司自上市日期起已遵守企業管治守則第C.2.1條至C.2.5條及第C.3.3條有關風險管理及內部監控之規定。

核數師酬金

德勤•關黃陳方會計師行（「德勤」）獲委任為本公司核數師，審計本公司截至2019年12月31日止年度按照國際財務報告準則編製的財務報表。於回顧年度內，就審計服務向德勤支付的費用為人民幣2,600,000元。



JOINT COMPANY SECRETARIES AND PRIMARY CONTACT OF THE COMPANY

Ms. Qian Xiaoning was appointed as the joint company secretary of the Company on 13 February 2017. Ms. Qian's biographical details are set out in the section headed "Directors and Senior Management" on page 28 to page 29 of this annual report. As Ms. Qian Xiaoning does not possess the qualifications as stipulated under Rules 3.28 and 8.17 of the Listing Rules, the Company has applied for and has been granted a waiver by the Stock Exchange from strict compliance with those Listing Rules.

In order to uphold good corporate governance and ensure compliance with the Listing Rules and applicable Hong Kong laws, the Company also engages Ms. Wong Wai Ling, the vice president of SWCS Corporate Services Group (Hong Kong) Limited (a company secretarial service provider), as its joint company secretary to assist Ms. Qian Xiaoning to discharge her duties as company secretary of the Company. Ms. Wong Wai Ling's primary contact person in the Company is Ms. Qian Xiaoning.

Ms. Qian Xiaoning and Ms. Wong Wai Ling have undertaken not less than 15 hours of relevant professional training in compliance with Rule 3.29 of the Listing Rules for the year ending 31 December 2019.

GENERAL MEETING

The annual general meeting ("AGM") of the Company will be held on 12 June 2020.

本公司的聯席公司秘書及主要聯絡人

於2017年2月13日，錢曉寧女士獲委任為本公司的聯席公司秘書。錢女士的履歷詳情載於本年報第28至29頁的「董事及高級管理層」一節。由於錢曉寧女士並不具備上市規則第3.28條及第8.17條規定的資格，本公司已向聯交所申請並獲聯交所豁免嚴格遵守該等上市規則。

為維持良好的企業管治水平及確保遵守上市規則及適用香港法例，本公司亦委聘黃慧玲女士（彼為方圓企業服務集團（香港）有限公司（公司秘書服務供應商）的總監）擔任聯席公司秘書，以協助錢曉寧女士履行其作為本公司公司秘書的職務。黃慧玲女士於本公司的主要聯絡人為錢曉寧女士。

截至2019年12月31日止年度，錢曉寧女士及黃慧玲女士已參與不少於15小時的相關專業培訓，以遵守上市規則第3.29條的規定。

股東大會

本集團股東周年大會（「股東周年大會」）將於2020年6月12日舉行。



CORPORATE GOVERNANCE REPORT (Continued)

企業管治報告 (續)

During the Reporting Period, the Group has held two general meetings held on 29 May 2019 and 21 June 2019, respectively. The details of the Directors' attendance are as follows:

本報告期內，本集團共舉行兩次股東大會，分別於2019年5月29日及2019年6月21日舉行，董事出席股東大會情況如下：

Directors	Attendance/number of meetings held
董事	已出席次數/ 舉行會議次數
Mr. Cheng Liquan Richard 程里全先生	2/2
Mr. Zeng Zhijun 曾之俊先生	2/2
Mr. Zheng Tony Tuo 鄭拓先生	2/2
Mr. Zhu Weihang 朱偉航先生	2/2
Mr. Chen Xue 陳學先生	2/2
Mr. Liu Genyu 劉根鈺先生	2/2
Dr. Xie Guozhong 謝國忠博士	2/2
Mr. Lu Zhifang 陸志芳先生	2/2



COMMUNICATION WITH SHAREHOLDERS AND INVESTOR RELATIONS

與股東的溝通及投資者關係

The Company considers that effective communication with shareholders is essential for enhancing investor relations and understanding of the Group's business, performance and strategies. The Company also recognizes the importance of timely and non-selective disclosure of information, which will enable shareholders and investors to make the informed investment decisions.

本公司認為，與股東的有效溝通對加強投資者關係及瞭解本集團的業務、表現及策略攸關重要。本公司亦深知及時與非選擇性地披露資料以供股東及投資者作出知情投資決策的重要性。

The AGM of the Company provides opportunity for shareholders to communicate directly with the Directors. The Chairman of the Company and the chairmen of the Board Committees of the Company will attend the AGM to answer shareholders' questions. The external auditor of the Company will also attend the AGM to answer questions about the conduct of the audit, the preparation and content of the auditor's report, the accounting policies and auditor independence.

本公司股東周年大會為股東提供與董事直接溝通的機會。本公司主席及本公司各董事委員會主席將出席股東周年大會解答股東提問。本公司的外聘核數師亦將出席股東周年大會，以解答有關審計操守、核數師報告的編製及內容、會計政策及核數師獨立性的問題。

To promote effective communication, the Company adopts a shareholders' communication policy which aims at establishing a two-way relationship and communication between the Company and its shareholders and maintains a website at <http://www.chinaboqi.com>, where up-to-date information on the Company's business operations and developments, financial information, corporate governance practices and other information are available for public access. In 2020, the Company will focus more on the demands of investors and analysts, pay close attention to important policies of the environmental protection and energy conservation industry and allow timely access by the public to sufficient business information and recent developments of the Company.

為促進有效的溝通，本公司採納股東通訊政策，旨在建立本公司與其股東的相互關係及溝通，並設有網站(<http://www.chinaboqi.com>)，刊登有關其業務營運及發展的最新數據、財務數據、企業管治常規及其他數據，以供公眾人士查閱。於2020年，本公司將更集中於投資者及分析師需求，密切關注環保及節能產業的重要政策，及時作出公開披露數據，讓公眾能夠及時取得完整的業務資料並瞭解公司近期發展狀況。

SHAREHOLDERS' RIGHTS

股東權利

To safeguard shareholders' interests and rights, a separate resolution will be proposed for each issue at shareholder meetings, including the election of individual directors.

為保障股東的利益及權利，本公司會於股東大會上就各項議題(包括選舉個別董事)提呈獨立決議案。



All resolutions put forward at shareholder meetings will be voted by poll pursuant to the Listing Rules and poll results will be posted on the websites of the Company and the Stock Exchange in a timely manner after each shareholder meeting.

Procedures for shareholders to convene an extraordinary general meeting

According to Article 12.3 of the Articles of Association, general meetings can be convened on the written requisition of any two or more shareholders holding at the date of deposit of the requisition not less than one-tenth of the paid up capital of the Company which carries the right of voting at general meetings of the Company deposited at the principal office of the Company in Hong Kong. If the Board does not within 21 days from the date of deposit of the requisition proceed duly to convene the meeting to be held within a further 21 days, the requisitionist(s) themselves or any of them representing more than one-half of the total voting rights of all of them, may convene the general meeting in the same manner, as nearly as possible, as that in which meetings may be convened by the Board provided that any meeting so convened shall not be held after the expiration of three months from the date of deposit of the requisition, and all reasonable expenses incurred by the requisitionist(s) as a result of the failure of the Board shall be reimbursed to them by the Company.

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

If a shareholder of the Company wishes to propose a person other than a Director for election as a Director at the Company's general meeting ("Proposal"), he/she should lodge a written notice setting out the Proposal and his/her contact details at the principal place of business of the Company or the Company's branch share registrar in Hong Kong, Tricor Investor Services Limited. The Proposal should include the biographical details of the proposed Director and a written notice signed by the proposed Director confirming his/her willingness to be elected, the accuracy and completeness of his/her biographical details.

於股東大會上提呈的所有決議案將根據上市規則以投票方式進行表決，投票結果將於各股東大會舉行後及時於本公司及聯交所網站刊登。

股東召開股東特別大會的程序

根據組織章程細則第12.3條，股東大會須於任何兩名或以上於存放請求書於本公司香港主要辦事處當日持有不少於有權於本公司股東大會上投票的本公司繳足股本十分之一的股東要求時召開。倘董事會並未於提交要求當日起計21日內正式召開將於額外21日內舉行之會議，要求者本身或當中代表彼等所享有全部投票權過半數之任何人士，可按相同方式（盡可能接近董事會可召開會議之方式）召開股東大會，前提為如此召開之任何會議不得在提交要求當日起計三個月屆滿後舉行，而所有因董事會未能履行要求而令要求者產生之合理費用須由本公司向要求者作出補償。

股東提名人選參選董事的程序

倘本公司股東有意於本公司股東大會上提名董事以外的人士參選董事（「議案」），則應向本公司香港主要營業地點或本公司香港股份過戶登記分處卓佳證券登記有限公司遞交書面通知，載列議案及其聯絡詳情。議案應包括建議董事的履歷詳情及建議董事簽署的書面通知，確認其選舉意願、履歷詳情的準確性及完整程度。



Shareholders' inquiries

If you have any query in connection with your shareholdings, please write to or contact the Company's Hong Kong share registrar, Tricor Investor Services Limited, at: Level 54, Hopewell Centre, 183 Queen's Road East, Hong Kong Tel: (852) 2980 1066 Fax: (852) 2262 7584 Website: www.tricorglobal.com.

股東查詢

如閣下對所持股份有任何查詢事項，請致函或聯絡本公司香港股份登記處卓佳證券登記有限公司，地址為：香港皇后大道東183號合和中心54樓，電話：(852) 2980 1066，傳真：(852) 2262 7584，網站：www.tricorglobal.com。

Investor relations and communications

The Company has set up a website at www.chinaboqi.com as a channel to promote communication, publishing announcements, financial information and other relevant information of the Company. Shareholders are welcome to make enquiries directly to the Company at its principal place of business in Hong Kong. The Company will deal with all enquiries in a timely and appropriate manner. The primary contacts of the Company are Ms. Zhu Beibei and Ms. Xu Na at (email: irhk@chinaboqi.com or tel: +86 10 59579665/+86 10 59579509).

投資者關係及通訊

作為促進有效溝通的溝通，本公司設立網站www.chinaboqi.com刊發本公司的公告、財務數據及其他相關數據。股東如有任何查詢，可直接致函至本公司於香港的主要營業地點。本公司將及時以適當方式處理所有查詢。本公司的主要聯絡人為朱蓓蓓女士及徐娜女士（電郵：irhk@chinaboqi.com或電話：+86 10 59579665 / +86 10 59579509）。

CHANGE IN CONSTITUTIONAL DOCUMENTS

The memorandum and articles of association of the Company have been amended and restated with effect from the Listing Date.

更改憲章文件

本公司的組織章程大綱及細則已予修訂並重列，有關修訂及重述自上市日期起生效。



Directors' Report

董事會報告

The Board is pleased to present its report together with the audited consolidated financial statements of the Group for the year ended 31 December 2019.

CORPORATE INFORMATION

Basic information about the Company is set out in the sections headed “Corporate Information” and “Company Profile” on page 2 to page 4 and page 15 of this annual report.

GLOBAL OFFERING

The Company was incorporated in the Cayman Islands as an exempted company with limited liability on 30 January 2015. The Company's shares were listed on the Stock Exchange on 16 March 2018.

PRINCIPAL ACTIVITIES

The Company is an investment holding company. The principal activities of the Group are providing independent flue gas treatment service and environmental protection solution service by various business models, including environmental protection facility engineering, operation and maintenance and concession operation.

The activities and particulars of the Company's subsidiaries are shown under note 44 to the consolidated financial statements. An analysis of the Group's revenue and operating profit for the year by principal activities is set out in the section headed “Management Discussion and Analysis” in this annual report and note 5 to the consolidated financial statements.

董事會欣然提呈截至2019年12月31日止年度之董事會報告及本集團經審核綜合財務報表。

公司資料

本公司的基本資料載列於本年報第2至4頁的「公司資料」及第15頁的「公司簡介」章節中。

全球發售

本公司於2015年1月30日於開曼群島註冊成立為獲豁免有限公司。本公司股份於2018年3月16日在聯交所上市。

主要業務

本公司為一家投資控股公司。本集團的主要業務為通過各種不同業務模式提供獨立的煙氣處理服務和環保解決方案，包括環保設施工程、運營與維護以及特許經營。

本公司附屬公司的活動及詳情載於綜合財務報表附註44。本集團年內營業額及經營利潤按主要業務劃分之分析載於本年報「管理層討論與分析」一節及綜合財務報表附註5。



BUSINESS REVIEW

A review of the Group's business during the year, which includes a discussion of the principal risks and uncertainties facing by the Group, an analysis of the Group's performance using financial key performance indicators, particulars of important events affecting the Group during the year, and an indication of likely future developments in the Group's business, could be found in the sections headed "Chairman's Statement" and "Management Discussion and Analysis" in this annual report. The financial risk management objectives and policies of the Group can also be found in note 3 to the consolidated financial statements. In addition, a discussion on relationships with its key stakeholders is included in the section headed "Management Discussion and Analysis" in this annual report. The review forms part of this directors' report.

RESULTS

The consolidated results of the Group for the year ended 31 December 2019 are set out on page 222 to page 226 of this annual report.

DIVIDEND POLICY

According to the dividend policy that resolved to adopt by the Board (the "**Dividend Policy**") on 18 May 2018, the Company may declare and distribute dividends to the shareholders of the Company, provided that the Group records a profit and that the declaration and distribution of dividends does not affect the Group's normal operations.

According to the Dividend Policy, the Company takes priority to distributing dividends in cash and shares its profits with the Shareholders. It is expected that the amount of dividends distributed will be in the range of 30%-50% of the Group's net profit for the current year, subject to the following requirements. The remaining profit will be used for the development and operation of the Group.

The Company's ability to distribute dividends will depend on, among others, the operating results, cash flow, financial condition and capital requirements of the Group and the interests of the Shareholders of the Company. The Company's distribution of dividends shall also comply with any restrictions under the Companies Law of the Cayman Islands and the Articles of Association of the Company.

業務回顧

本集團年內業務回顧包括討論本集團面對的主要風險及不明朗因素、採用財務關鍵表現指標分析本集團之表現、年內影響本集團之重大事件詳情以及本集團業務未來發展的揭示，載於本年報「主席報告書」及「管理層討論與分析」章節。本集團的財務風險管理目標及政策亦載於綜合財務報表附註3。此外，就與主要利益相關者之關係之討論載於本年報「管理層討論與分析」章節。該回顧構成本董事會報告之一部分。

業績

本集團截至2019年12月31日止年度的綜合業績載於本年報第222至226頁。

股息政策

根據本公司董事會於2018年5月18日決議及採納的股息政策（「**股息政策**」），倘本集團錄得盈利並宣派及派發股息而不影響本集團的正常營運，則本公司可向本公司股東宣派及派發股息。

根據股息政策，本公司優先考慮以現金方式分派股息，與股東共享其溢利，金額預計達到本集團當年度淨利潤的30%-50%，惟須受下列標準所規限，餘下溢利將供本集團作發展及營運之用。

本公司派發股息的能力將取決於（其中包括）本集團的經營業績、現金流量、財務狀況、資本需求以及本公司的股東權益。本公司派發股息亦受限於開曼群島公司法及本公司章程細則項下的任何限制。



FINAL DIVIDENDS

Taking into consideration various factors such as the new business development needs of the Group and its future capital expenditure plans, the Board recommend the payment of HK\$0.0315 per ordinary share as final dividend for the year ended 31 December 2019 (2018: HK\$0.09).

FINANCIAL SUMMARY

A summary of the Group's results, assets, liabilities for the last four financial years are set out on page 6 to page 9 of this annual report. This summary does not form part of the audited consolidated financial statements.

USE OF NET PROCEEDS FROM THE COMPANY'S INITIAL PUBLIC OFFERING

On 16 March 2018 (the Listing Date), the shares of the Company were listed on the Main Board of the Stock Exchange, pursuant to which 216,105,000 new shares were issued by the Company to the public at HK\$2.40 per share, with net proceeds of HK\$489 million (approximately RMB391 million), after deduction of underwriting commission and estimated expenses payable in connection with the global offering.

In 2019, the Company saw an increase in the capital requirement for the new projects and concession investments in the non-electricity industry. Accordingly, since 1 January 2019 and up to 31 December 2019, the Company has utilized the proceeds in the following manner:

- (i) approximately RMB25 million of the proceeds for the newly built and upgrade concession operation projects;
- (ii) approximately RMB11 million of the proceeds for research and development expenses; and
- (iii) approximately RMB27 million of the proceeds for working capital and other general corporate purposes,

which was in line with the intended use of the proceeds as disclosed in the prospectus, with a remaining balance of RMB87 million.

末期股息

本公司董事會結合集團新業務發展所需及未來資本開支計劃等多重因素，建議宣派截至2019年12月31日止年度之末期股息每股普通股0.0315港元（2018年：0.09港元）。

財務概要

本集團於過去四個財政年度的業績、資產、負債之概要載於本年報第6至9頁。此概要並不構成經審核綜合財務報表的一部分。

本公司首次公開發售所得款項淨額用途

於2018年3月16日（上市日期），本公司股份在聯交所主板上市，據此，本公司按發售價每股2.40港元發行216,105,000股股份，經扣除本公司就全球發售應付的包銷佣金及估計開支後的所得款項淨額為489百萬港元，（約為人民幣391百萬元）。

2019年，本公司非電行業新項目及特許經營投資資金需求增長，自2019年1月1日至2019年12月31日，本公司已按照以下方式動用所得款項：

- (i) 約人民幣25百萬元以供特許經營項目的新建及改造；
- (ii) 約人民幣11百萬元以供研發開支；及
- (iii) 約27百萬元以供營運資金及其他一般企業用途，剩餘人民幣87百萬元尚未動用。

以上動用方式符合招股章程所披露的擬定用途。



For the amounts not utilized yet, the Company will use the net proceeds in the ways as disclosed in the prospectus in the future. The below table sets out the expected plan of use:

就尚未動用款項，未來本公司將按照招股章程所披露的方式使用所得款項淨額，預計使用計劃如下表：

	Amount available to be utilized as of 31 December 2018 截止2018年 12月31日 可動用金額 (RMB million) (百萬元人民幣)	Utilized amount for the period 期內 已動用金額 (RMB million) (百萬元人民幣)	Amount expected to be utilized 預計 動用金額 (RMB million) (百萬元人民幣)	Expected time of use 預計使用 時間段	Detailed description 詳細描述
Use of Proceeds 所得款項用途					
New concession projects or the upgrade of the concession projects 特許經營項目的新建及改造	25	25	Nil 無	–	–
Research and development expenditures 研發開支	15	11	4	2020 2020年	Research and development expenses in flue gas, industrial waste water and hazardous and solid waste treatment/disposal and other environmental protection solutions 有關煙氣、工業廢水及危固廢處理處置和其他環保解決方案的 研究及開發的開支
Working capital and other general corporate purposes 營運資金及其他 一般企業用途	27	27	Nil 無		Working capital and other general corporate purposes 營運資金及其他一般企業用途
Strategic mergers and acquisitions 戰略收併購	137	54	83	2020 2020年	The Company has been identifying and contacting various acquisition targets to seek strategic merger and acquisition opportunities. Generally it is expected to take approximately 8 to 16 months from the confirmation of an acquisition target to the completion of the acquisition 本公司一直物色及接觸不同收購目標，以尋求戰略性併購機會。一般而言，由確定收購目標至完成收購需時約8至16個月



Directors' Report (Continued)

董事會報告 (續)

MAJOR CUSTOMERS AND SUPPLIERS

For the year ended 31 December 2019, the Group's largest customers accounted for 9.1% of the Group's total revenue. The Group's five largest customers accounted for 36.3% (2018: 47.1%) of the Group's total revenue.

For the year ended 31 December 2019, the Group's largest suppliers accounted for 5.8% of the Group's total cost of procurement. The Group's five largest suppliers accounted for 22.3% (2018: 27.9%) of the Group's total cost of procurement.

Save as disclosed in the prospectus of the Company dated 28 February 2018 (the "Prospectus"), none of the Directors or any of their associates (as defined under Listing Rules) or any Shareholders (which, to the best knowledge of the Directors, owns more than 5% of the Company's issued share capital) has any beneficial interest in the Group's five largest suppliers or the Group's five largest customers.

PROPERTY, PLANT AND EQUIPMENT

Details of movements in the property, plant and equipment of the Company and the Group during the year ended 31 December 2019 are set out in note 14 to the consolidated financial statements.

SHARE CAPITAL

Details of movements in the share capital of the Company during the year ended 31 December 2019 are set out in note 35 to the consolidated financial statements.

TAX RELIEF

The Company is not aware of any tax relief available to the Shareholders by reason of their holding in the Company's securities.

主要客戶及供應商

截至2019年12月31日止年度，本集團最大客戶佔本集團總收益9.1%。本集團五大客戶佔本集團總收益36.3%。(2018年：47.1%)

截至2019年12月31日止年度，本集團最大供應商佔本集團總採購成本5.8%。本集團五大供應商佔本集團總採購成本22.3% (2018年：27.9%)。

除本公司日期為2018年2月28日的招股章程（「招股章程」）所披露者外，概無董事或彼等的任何聯繫人（定義見上市規則）或任何股東（其就董事所深知擁有本公司超過5%已發行股本）於本集團五大供應商或本集團五大客戶擁有任何實益權益。

物業、廠房及設備

本公司及本集團於截至2019年12月31日止年度的物業、廠房及設備變動詳情載於綜合財務報表附註14。

股本

本公司於截至2019年12月31日止年度的股本變動詳情載於綜合財務報表附註35。

稅務寬免

本公司並不知悉股東因持有本公司證券而享有任何稅務寬免。



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

購買、出售或贖回本公司上市證券

For the year ended 31 December 2019 (the "Period"), the Company purchased 2,397,000 shares of its shares, in aggregate, on the Stock Exchange at a total consideration of HK\$3,459,500.00, which were cancelled thereafter.

截至2019年12月31日止年度(「期間」)，本公司於聯交所按總代價3,459,500.00港元購買合共2,397,000股股份，有關股份於其後註銷。

Details of the repurchases are summarized as follows:

回購詳情概要如下：

Month of repurchase in 2019 於2019年回購月份	Number of Shares repurchased 回購股份數目	Highest price per share 每股最高價格 HK\$ 港元	Lowest price per share 每股最低價格 HK\$ 港元	Aggregate consideration 總代價 HK\$ 港元
January 1月	764,000	1.80	1.72	1,359,720.00
February 2月	341,000	1.75	1.60	579,250.00
July 7月	692,000	1.28	1.10	806,780.00
August 8月	100,000	1.20	1.10	116,180.00
September 9月	500,000	1.20	1.17	597,570.00

Save for the above, neither the Company nor any member of the Group has purchased, sold or redeemed any of the Company's shares during the Period.

除上述者外，本公司或本集團成員公司於期間內並無購買、出售或贖回任何本公司股份。

PRE-EMPTIVE RIGHTS

As at 31 December 2019, there were no provisions for pre-emptive rights under the Articles of Association, which require the Company to offer new Shares to existing Shareholders in proportion to their shareholdings.

優先購買權

於2019年12月31日，組織章程細則並無就優先購買權作出規定，並無要求本公司按股東的持股比例向現有股東提呈發售新股。

RESERVES

Details of movements in the reserves of the Company and the Group during the year ended 31 December 2019 are set out in the consolidated statement of changes in equity on page 227 to page 229 and on page 373.

儲備

截至2019年12月31日止年度，本公司及本集團之儲備變動詳情載於第227至229頁的綜合權益變動表及第373頁。



Directors' Report (Continued)

董事會報告 (續)

DISTRIBUTABLE RESERVES

As at 31 December 2019, the Group's distributable reserves were RMB924,509,000 (as at 31 December 2018: RMB861,492,000).

BANK LOANS AND OTHER BORROWINGS

Particulars of bank loans and other borrowings of the Company and the Group as at 31 December 2019 are set out in note 31 to the consolidated financial statements.

LOAN AND GUARANTEE

During the year ended 31 December 2019, the Group had not made any loan or provided any guarantee for loan, directly or indirectly, to the Directors, senior management, its controlling shareholders being Mr. Cheng, Mr. Zeng, World Hero International Limited (“**World Hero**”) and Best Dawn Limited (“**Best Dawn**”) (collectively referred to as the “**Controlling Shareholders**”) or his/her respective connected persons.

DIRECTORS

The Directors during the year ended 31 December 2019 and up to the date of this annual report were:

Executive Directors

Mr. Cheng Liquan Richard (*Chairman*)
Mr. Zeng Zhijun

Non-executive Directors

Mr. Zheng Tony Tuo
Mr. Zhu Weihang
Mr. Chen Xue

Independent Non-executive Directors

Mr. Liu Genyu
Dr. Xie Guozhong
Mr. Lu Zhifang

可供分配儲備

於2019年12月31日，本集團之可供分配儲備為人民幣924,509,000元（於2018年12月31日：人民幣861,492,000元）。

銀行貸款及其他借款

本公司及本集團於2019年12月31日的銀行貸款及其他借款的詳情載於綜合財務報表附註31。

貸款及擔保

截至2019年12月31日止年度，本集團概無任何貸款或就貸款（直接或間接）向董事、高級管理層、其控股股東（即程先生、曾先生、World Hero International Limited（「**World Hero**」）及 Best Dawn Limited（「**Best Dawn**」），統稱為「**控股股東**」）或其各自關連人士提供任何擔保。

董事

截至2019年12月31日止年度及直至本年報日期的董事如下：

執行董事

程里全先生（主席）
曾之俊先生

非執行董事

鄭拓先生
朱偉航先生
陳學先生

獨立非執行董事

劉根鈺先生
謝國忠博士
陸志芳先生



BIOGRAPHICAL DETAILS OF THE DIRECTORS AND THE SENIOR MANAGEMENT

Biographical details of the Directors and the senior management of the Group as at the date of this annual report are set out on page 16 to page 32 in the section headed “Directors and Senior Management” to this annual report.

CONFIRMATION OF INDEPENDENCE OF INDEPENDENT NON-EXECUTIVE DIRECTORS

The Company has received a confirmation of independence pursuant to Rule 3.13 of the Listing Rules from each of the independent non-executive Directors and the Company considers such Directors to be independent during the period from their respective appointments and up to the date of this annual report.

EQUITY-LINKED AGREEMENTS

Save for the Pre-IPO Share Award Scheme of the Company as set out in note 41 to the consolidated financial statements, no equity-linked agreements were entered into by the Group, or existed during the year ended 31 December 2019.

DIRECTORS' SERVICE CONTRACT AND LETTER OF APPOINTMENTS

Each of the executive Directors has entered into a service contract with the Company for a term of three years commencing from 28 February 2018.

Each of the non-executive Directors and the independent non-executive Directors has signed an appointment letter with the Company for a term of three years commencing from 28 February 2018.

None of the Directors has a service contract which is not determinable by the Group within one year without payment of compensation (other than statutory compensation).

董事及高級管理層的履歷詳情

本集團於本年報日期的董事及高級管理層履歷詳情載列於本年報「董事及高級管理層」一節第16至32頁。

獨立非執行董事的獨立性確認書

本公司已接獲各獨立非執行董事根據上市規則第3.13條所作獨立性確認書，且本公司認為該等董事自彼等各自獲委任日期起及直至本年報日期止期間為獨立人士。

股本掛鈎協議

除載於綜合財務報表附註41的首次公開發售前股份獎勵計劃外，截至2019年12月31日止年度，本集團概無訂立任何股本掛鈎協議，或概無過往訂立的股本掛鈎協議。

董事的服務合約及委任函

各執行董事已與本公司訂立服務合約，自2018年2月28日起計為期三年。

各非執行董事及獨立非執行董事已與本公司簽署委任函，自2018年2月28日起計為期三年。

概無董事訂立本集團不可於一年內終止而毋須支付賠償（法定賠償除外）的服務合約。



Directors' Report (Continued)

董事會報告 (續)

DIRECTORS' INTERESTS IN TRANSACTIONS, ARRANGEMENTS OR CONTRACTS OF SIGNIFICANCE

Save as disclosed in the section headed "Connected Transactions" below, neither the Director nor any entity connected with the Director had a material interest in, either directly or indirectly, in any contract of significance to the business of the Group to which the Company or any of its subsidiaries was a party during the year ended 31 December 2019.

PERMITTED INDEMNITY

Pursuant to the amended and restated memorandum and articles of association of the Company, every Director shall be indemnified out of the assets of the Company against all losses or liabilities incurred or sustained by him as a director of the Company. The Company has arranged appropriate liability insurance to indemnify the Directors for their liabilities arising out of corporate activities.

MANAGEMENT CONTRACTS

No contracts concerning the management and administration of the whole or any substantial part of the business of the Company were entered into or existed during the year ended 31 December 2019.

CONTROLLING SHAREHOLDERS' INTERESTS IN CONTRACTS

There was no contract of significance to which the Company or its holding company or any of its subsidiaries was a party and in which any Controlling Shareholder had a material interest subsisted during the year ended 31 December 2019.

CONTRACTS WITH CONTROLLING SHAREHOLDERS

No contract of significance has been entered into among the Company or any of its subsidiaries and the Controlling Shareholders or any of their subsidiaries during the year ended 31 December 2019.

董事於交易、安排或重大合約的權益

除下文「關連交易」一節所披露者外，截至2019年12月31日止年度，概無董事或任何與董事有關連的實體於本公司或其任何附屬公司訂立之對本集團業務而言屬重大的任何合約中直接或間接擁有重大權益。

獲准許彌償條文

根據本公司經修訂及經重列組織章程大綱及細則，每位董事須就其作為本公司董事而產生或蒙受的一切虧損或負債，可自本公司資產中獲得彌償。本公司已為董事安排合適的責任保險，以保障彼等因企業活動而引起之責任賠償。

管理合約

截至2019年12月31日止年度，概無就本公司整體業務或其任何主要部份的管理及行政訂立或存續任何合約。

控股股東於合約的權益

截至2019年12月31日止年度，本公司或其控股公司或其任何附屬公司概無訂立任何控股股東於當中擁有重大權益之重大合約。

與控股股東訂立的合約

截至2019年12月31日止年度，本公司或其任何附屬公司並無與控股股東或其任何附屬公司訂立重大合約。



EMPLOYEES

The Group had 1,950 employees as at 31 December 2019, as compared to 1,800 employees as at 31 December 2018. The employees of the Company are employed under employment contracts which set out, among other things, their job scope and remuneration. Further details of their employment terms are set out in the employee handbook of the Company. The Company determines the employees' salaries based on their job nature, scope of duty, and individual performance. The Company also provides various benefits to the employees including medical care, housing subsidies, retirement and other benefits as well as on-the-job education, training and other opportunities to improve their skills and knowledge. The Company also provides employees with contributions to social insurance and housing provident fund for the employees in accordance with PRC regulations and the internal.

EMOLUMENT POLICY

The Remuneration Committee was set up for reviewing the Group's emolument policy and structure for all remuneration of the directors and senior management of the Group, having regard to the Group's operating results, individual performance of the directors and senior management and comparable market practices.

REMUNERATION OF DIRECTORS AND FIVE INDIVIDUALS WITH HIGHEST EMOLUMENTS

Details of the emoluments of the Directors and five highest paid individuals are set out in notes 13 to the consolidated financial statements.

僱員

於2019年12月31日，本集團有1,950名僱員，而2018年12月31日有1,800名僱員。本公司的僱員乃根據載列（其中包括）其工作範圍及薪酬的僱傭合約僱傭。其僱傭條款的進一步詳情載於本公司的僱員手冊。本公司根據僱員的工作性質、職責範圍及個人表現釐定其薪金。本公司亦向僱員提供各種福利，包括醫療、住房補貼、退休及其他福利以及在職教育、培訓及其他機會，以改善其技能及知識。本公司亦根據中國法規及內部政策向僱員提供社會保險及住房公積金供款。

薪酬政策

本集團已設立薪酬委員會，旨在根據本集團之經營業績、董事及高級管理層之個人表現及可資比較市場慣例，檢討本集團的薪酬政策及董事及高級管理層的全部薪酬架構。

董事及五名最高薪酬人士酬金

董事及五名最高薪酬人士酬金詳情載於綜合財務報表附註13。



Directors' Report (Continued)

董事會報告 (續)

DIRECTORS' AND CHIEF EXECUTIVE'S INTERESTS AND SHORT POSITION IN SHARES, UNDERLYING SHARES AND DEBENTURES

董事及最高行政人員於股份、相關股份及債券之權益及淡倉

As at the 31 December 2019, the interests and short positions of the Directors and the chief executive of the Company in the Shares, underlying Shares and debentures of the Company or any of its associated corporations (within the meaning of Part XV of the SFO) (i) which were required to be notified to the Company and the Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests and short positions which were taken or deemed to have under such provisions); or (ii) which were required to be recorded in the register of the Company required to be kept under Section 352 of the SFO; or (iii) which were required to be notified to the Company and the Stock Exchange pursuant to the Model Code.

於2019年12月31日，本公司董事或最高行政人員於本公司或其任何相聯法團（定義見證券及期貨條例第XV部）的股份、相關股份及債權證中擁有(i)根據證券及期貨條例第XV部第7及8分部須知會本公司及聯交所的權益及淡倉（包括根據證券及期貨條例的有關條文被當作或視作擁有的權益及淡倉）；或(ii)根據證券及期貨條例第352條的規定須記入本公司存置的登記冊的權益及淡倉；或(iii)根據標準守則須知會本公司及聯交所的權益及淡倉如下：

Long position in our Shares, underlying Shares and debentures of our Company

於本公司股份、相關股份及債權證中的好倉

Name of Director 董事姓名	Nature of Interest 權益性質	Number and class of Shares 股份數及類別	Approximate percentage of shareholding 概約持股百分比
Mr. Cheng Liquan Richard 程里全先生	Interests held jointly with another person (Note 1); interest of a controlled corporation (Note 2); and beneficial owner (Note 5) 與他人共同持有的權益 (附註1)； 受控法團權益 (附註2)； 及實益擁有人 (附註5)	409,951,911 (Long Position) (好倉)	40.71%
Mr. Zeng Zhijun 曾之俊先生	Interests held jointly with another person (Note 1); and interest of a controlled corporation (Note 3) 與他人共同持有的權益 (附註1)； 及受控法團權益 (附註3)	409,951,911 (Long Position) (好倉)	40.71%
Mr. Zhu Weihang 朱偉航先生	Interest of a controlled corporation (Note 4) 受控法團權益 (附註4)	152,573,529 (Long Position) (好倉)	15.15%



Notes:

- (1) Mr. Cheng Liquan Richard and Mr. Zeng Zhijun have entered into an acting-in-concert arrangement. As such, Mr. Cheng and Mr. Zeng together control 40.71% equity interests in the issued share capital of our Company through World Hero International Limited (“**World Hero**”), Asia Environment Investment Limited (“**Asia Environment**”) and Best Dawn Limited (“**Best Dawn**”).
- (2) Mr. Cheng holds the entire issued share capital of World Hero. Therefore, Mr. Cheng is deemed to be interested in the Shares held by World Hero under the SFO.
- (3) Mr. Zeng holds the entire issued share capital of Best Dawn and 47.2% of interests in Asia Environment. Therefore, Mr. Zeng is deemed to be interested in the Shares held by Best Dawn and Asia Environment under the SFO.
- (4) The entire issued share capital of New Asia Limited (“**New Asia**”) is held by Great Origin Ventures Limited (“**Great Origin**”), whose entire issued share capital is in turn held by Mr. Zhu. Therefore, Mr. Zhu is deemed to be interested in the Shares held by New Asia under the SFO.
- (5) Mr. Cheng directly holds 900,000 shares of the Company.

Save as disclosed above, as at the date of this annual report, none of the Directors and the chief executive of the Company had or was deemed to have any interest or short position in the Shares, underlying Shares or debentures of the Company or its associated corporations (within the meaning of Part XV of the SFO) that was required to be recorded in the register of the Company required to be kept under Section 352 of the SFO, or as otherwise notified to the Company and the Stock Exchange pursuant to the Model Code.

附註：

- (1) 程里全先生及曾之俊先生已訂立一致行動安排，因此，程先生及曾先生透過World Hero International Limited (「**World Hero**」)、Asia Environment Investment Limited (「**Asia Environment**」) 及Best Dawn Limited (「**Best Dawn**」) 共同控制本公司已發行股本40.71%股權。
- (2) 程先生持有World Hero之全部已發行股本。因此，程先生根據證券及期貨條例被視為於World Hero持有的股份中擁有權益。
- (3) 曾先生持有Best Dawn之全部已發行股本及Asia Environment之47.2%權益。因此，曾先生根據證券及期貨條例被視為於Best Dawn及Asia Environment持有的股份中擁有權益。
- (4) 偉源創投有限公司(「**偉源**」) 持有New Asia Limited (「**New Asia**」) 的全部已發行股本，而朱先生持有偉源的全部已發行股本。因此，朱先生根據證券及期貨條例被視為於New Asia持有的股份中擁有權益。
- (5) 程先生直接持有本公司股份900,000股。

除上文所披露者外，於本年報日期，概無本公司董事及最高行政人員在本公司或其相聯法團(定義見證券及期貨條例第XV部)的股份、相關股份或債權證中，擁有或被視作擁有須記錄於本公司根據證券及期貨條例第352條存置的登記冊或根據標準守則須知會本公司及聯交所的任何權益或淡倉。



DIRECTORS' RIGHTS TO ACQUIRE SHARES OR DEBENTURES

From March to May 2019, and from July to September 2019, the Directors and management of the Company successively used their own funds to purchase 3,011,000 Shares at an average price of HK\$1.49 per share, equivalent to the 0.30% of the equity interests in the issued share capital of our Company. Mr. Cheng Liquan Richard and Mr. Zeng Zhijun purchased 3,011,000 shares for the concerted parties. The number of Shares currently held is 409,951,911 shares, and the shareholding ratio has risen to 40.71% of the issued share capital of the Company.

SUBSTANTIAL SHAREHOLDERS' INTERESTS AND SHORT POSITIONS IN SHARES AND UNDERLYING SHARES

As at the date of this annual report, to the best knowledge of the Directors, the following persons (not being a Director or chief executive of the Company) had interests or short positions in the Shares or underlying Shares which fall to be disclosed to the Company under the provisions of Divisions 2 and 3 of Part XV of the SFO as recorded in the register required to be kept by the Company pursuant to section 336 of the SFO:

董事收購股份或債權證的權利

於2019年3月至5月，以及2019年7月至9月，本公司董事及管理層相繼使用自有資金在市場以平均每股1.49港元合共購入3,011,000股本公司的股份，相當於本公司發行股本的0.30%。程里全先生及曾之俊先生為一致行動人士共購入3,011,000股，現持有股份數目為409,951,911股，持股比例上升至本公司發行股本的40.71%。

主要股東於股份及相關股份中的權益及淡倉

於本年報日期，據董事所深知，下列人士（並非本公司董事或最高行政人員）於股份或相關股份中擁有須記載於本公司按證券及期貨條例第336條須置存之登記冊內的根據證券及期貨條例第XV部第2及3分部的條文須向本公司披露的權益或淡倉：

Name 姓名／名稱	Capacity/Nature of interest 身份／權益性質	Number of Shares 股份數目	Approximate percentage of shareholding 股權概約百分比
Mr. Cheng Liquan Richard 程里全先生	Interests held jointly with another person (Note 1); interest of a controlled corporation (Note 2); and beneficial owner (Note 3) 與他人共同持有的權益 (附註1)； 受控法團權益 (附註2)； 及實益擁有人 (附註3)	409,951,911 (Long Position) (好倉)	40.71%
World Hero	Beneficial owner	168,134,580	16.69%
World Hero	實益擁有人	(Long Position) (好倉)	



Name 姓名 / 名稱	Capacity/Nature of interest 身份 / 權益性質	Number of Shares 股份數目	Approximate percentage of shareholding 股權概約百分比
Ms. Zhou Xuan 周旋女士	Interest of spouse (Note 4) 配偶權益 (附註4)	409,951,911 (Long Position) (好倉)	40.71%
Mr. Zeng Zhijun 曾之俊先生	Interests held jointly with another person (Note 1); and interest of a controlled corporation (Note 5) 與他人共同持有的權益 (附註1) ; 及受控法團權益 (附註5)	409,951,911 (Long Position) (好倉)	40.71%
Best Dawn Best Dawn	Beneficial owner (Note 5) 實益擁有人 (附註5)	213,975,143 (Long Position) (好倉)	21.25%
Ms. Ge Tong 戈彤女士	Interest of spouse (Note 6) 配偶權益 (附註6)	409,951,911 (Long Position) (好倉)	40.71%
New Asia New Asia	Beneficial owner 實益擁有人	152,573,529 (Long Position) (好倉)	15.15%
Great Origin 偉源	Interest of a controlled corporation (Note 7) 受控法團權益 (附註7)	152,573,529 (Long Position) (好倉)	15.15%
Mr. Zhu Weihang 朱偉航先生	Interest of a controlled corporation (Note 7) 受控法團權益 (附註7)	152,573,529 (Long Position) (好倉)	15.15%
Sinopec Overseas Investment Holding Limited ("Sinopec") 中國石化海外投資控股有限公司 (「中石化」)	Beneficial owner 實益擁有人	110,294,118 (Long Position) (好倉)	10.95%
China Petroleum & Chemical Corporation 中國石油化工股份有限公司	Interest of a controlled corporation (Note 8) 受控法團權益 (附註8)	110,294,118 (Long Position) (好倉)	10.95%



Directors' Report (Continued)

董事會報告 (續)

Name 姓名／名稱	Capacity/Nature of interest 身份／權益性質	Number of Shares 股份數目	Approximate percentage of shareholding 股權概約百分比
Full Synergy Investment Limited ("Full Synergy") 景滿投資有限公司(「景滿」)	Beneficial owner (Note 9) 實益擁有人(附註9)	56,508,715	5.61%
Partners Investment Management Limited Partners Investment Management Limited	Interest of a controlled corporation (Note 9) 受控法團權益(附註9)	56,508,715	5.61%
Bullion Riches Limited Bullion Riches Limited	Interest of a controlled corporation (Note 9) 受控法團權益(附註9)	56,508,715	5.61%
Partners Financial Holdings Limited Partners Financial Holdings Limited	Interest of a controlled corporation (Note 9) 受控法團權益(附註9)	56,508,715	5.61%
Bright Hope Global Investments Limited Bright Hope Global Investments Limited	Interest of a controlled corporation (Note 9 and 10) 受控法團權益(附註9及10)	56,508,715	5.61%
Wan Ten Lap 溫天納	Interest of a controlled corporation (Note 9 and 10) 受控法團權益(附註9及10)	56,508,715	5.61%
Zhang Yi 張懿	Interest of a controlled corporation (Note 9 and 10) 受控法團權益(附註9及10)	56,508,715	5.61%
Yunnan Energy Investment (HK) Co. Limited (Note 11) 香港雲能國際投資有限公司(附註11)	Beneficial owner; Interest held Jointly with another person 實益擁有人； 聯同其他人士持有權益	168,134,580	16.69%
YUNNAN PROVINCIAL ENERGY INVESTMENT GROUP Co., LTD. (Note 11) 雲南省能源投資集團有限公司(附註11)	Interest of a controlled corporation (Note 11) Interest held Jointly with another person 受控法團權益(附註11) 聯同其他人士持有權益	168,134,580	16.69%



Note:

- (1) Mr. Cheng Liquan Richard and Mr. Zeng Zhijun have entered into an acting-in-concert arrangement. As such, Mr. Cheng and Mr. Zeng together control 40.71% equity interests in the issued share capital of our Company through World Hero, Asia Environment and Best Dawn. Asia Environment is owned as to 47.2% by Mr. Zeng. Asia Environment is interested in 2.67% interest in the issued share capital of our Company, and therefore Mr. Zeng is deemed to be interested in the Shares held by Asia Environment under Part XV of the SFO.
- (2) Mr. Cheng holds the entire issued share capital of World Hero. Therefore, Mr. Cheng is deemed to be interested in the Shares held by World Hero under the SFO.
- (3) Mr. Cheng directly holds 900,000 shares of the Company.
- (4) Ms. Zhou Xuan is the spouse of Mr. Cheng. Under the SFO, Ms. Zhou Xuan is deemed to be interested in the same number of Shares in which Mr. Cheng is interested.
- (5) Mr. Zeng holds the entire issued share capital of Best Dawn. Therefore, Mr. Zeng is deemed to be interested in the Shares held by Best Dawn under the SFO.
- (6) Ms. Ge Tong is the spouse of Mr. Zeng. Under the SFO, Ms. Ge Tong is deemed to be interested in the same number of Shares in which Mr. Zeng is interested.
- (7) The entire issued share capital of New Asia is held by Great Origin, whose entire issued share capital is in turn held by Mr. Zhu. Therefore, Mr. Zhu is deemed to be interested in the Shares held by New Asia under the SFO.

附註：

- (1) 程里全先生及曾之俊先生已訂立一致行動安排，因此，程先生及曾先生透過World Hero、Asia Environment及Best Dawn共同控制本公司已發行股本40.71%股本權益。Asia Environment由曾先生擁有47.2%權益。Asia Environment於本公司已發行股本擁有2.67%權益，故根據證券及期貨條例第XV部，曾先生被視為於Asia Environment持有之股份中擁有權益。
- (2) 程先生持有World Hero之全部已發行股本，因此，程先生根據證券及期貨條例被視為於World Hero所持有的股份中擁有權益。
- (3) 程先生直接持有本公司股份900,000股。
- (4) 周旋女士為程先生之配偶。根據證券及期貨條例，周旋女士被視為於程先生所持有權益之相同數目股份中擁有權益。
- (5) 曾先生持有Best Dawn之全部已發行股本，因此，曾先生根據證券及期貨條例被視為於Best Dawn所持有的股份中擁有權益。
- (6) 戈彤女士為曾先生之配偶。根據證券及期貨條例，戈彤女士被視為於曾先生所持有權益之相同數目股份中擁有權益。
- (7) 偉源持有New Asia的全部已發行股本，而朱先生持有偉源的全部已發行股本。因此，朱先生根據證券及期貨條例被視為於New Asia所持有的股份中擁有權益。



Directors' Report (Continued)

董事會報告 (續)

- (8) *China Petroleum & Chemical Corporation holds the entire issued share capital of Sinopec. Therefore, China Petroleum & Chemical Corporation is deemed to be interested in the Shares held by Sinopec under the SFO. China Petroleum & Chemical Corporation is a PRC state-owned company, whose H shares are listed on the Main Board (stock code: 386).*
- (8) 中國石油化工股份有限公司持有中石化之全部已發行股本。因此，中國石油化工股份有限公司根據證券及期貨條例被視為於中石化所持有的股份中擁有權益。中國石油化工股份有限公司為一家中國國有企業，其H股於主板上市(股份代號：386)。
- (9) *Full Synergy, a company incorporated in the BVI on 2 April 2015, is an investment holding company and a wholly-owned subsidiary of Partners Investment Management Limited. Partners Investment Management Limited is wholly owned by Bullion Riches Limited, which in turn is wholly owned by Partners Financial Holdings Limited. Partners Financial Holdings Limited is a financial holding company, whose subsidiaries are licensed corporations under the SFO holding type 1, type 4, type 6 and type 9 licences in Hong Kong. Full Synergy is the issuer of structured notes, of which one of the subscribers is a fund established in the PRC. Mr. Cheng, through World Hero, subscribed approximately 2.96% of the limited partner interest in such fund. Mr. Cheng does not hold any interest in the general partner of the fund, and is not involved in the decision making process of the fund.*
- (9) 景滿為一間於2015年4月2日於英屬處女群島註冊成立的投資控股公司，並為Partners Investment Management Limited之全資附屬公司。Partners Investment Management Limited由Bullion Riches Limited全資擁有，而Bullion Riches Limited由Partners Financial Holdings Limited全資擁有。Partners Financial Holdings Limited為金融控股公司，其附屬公司為於香港持有根據證券及期貨條例第1類、第4類、第6類及第9類牌照的持牌法團。景滿為結構性票據發行人，其中一名認購方為在中國成立的一項基金。程先生透過World Hero認購該基金有限合夥權益約2.96%。程先生並無持有該基金一般合夥人的任何權益且並不參與該基金的任何決策程序。
- (10) *Bright Hope Global Investments Limited and Wan Ten Lap own 44% and 51%, respectively, of Partners Financial Holdings Limited, the holding company of Full Synergy. Zhang Yi in turn owns 100% of Bright Hope Global Investments Limited. Under the SFO, Bright Hope Global Investments Limited, Wan Ten Lap and Zhang Yi are deemed to be interested in the same number of Shares in which Full Synergy is interested.*
- (10) *Bright Hope Global Investments Limited and Wan Ten Lap 分別擁有景滿的控股公司Partners Financial Holdings Limited 44%及51%股權。而張懿擁有Bright Hope Global Investments Limited 100%股權。根據證券及期貨條例，Bright Hope Global Investments Limited、Wan Ten Lap及張懿被視為擁有與景滿所擁有股權的股份數相同的股權。*
- (11) *The entire issued share capital of Yunnan Energy Investment (HK) Co. Limited is held by YUNNAN PROVINCIAL ENERGY INVESTMENT GROUP CO., LTD. Therefore, YUNNAN PROVINCIAL ENERGY INVESTMENT GROUP CO., LTD. is deemed to be interested in the Shares held by Yunnan Energy Investment (HK) Co. Limited under the SFO.*
- (11) 香港雲能國際投資有限公司的全部已發行股本由雲南省能源投資集團有限公司持有。因此，根據證券及期貨條例，雲南省能源投資集團有限公司被視為擁有由香港雲能國際投資有限公司持有的股份權益。

Save as disclosed above, and as at the date of this annual report, the Directors were not aware of any persons (who were not directors or chief executive of the Company) who had an interest or short position in the Shares or underlying Shares of the Company which would fall to be disclosed under Divisions 2 and 3 of Part XV of the SFO, or which would be required, pursuant to Section 336 of the SFO, to be entered in the register referred to therein.

除上文所披露者外，於本年報日期，董事並不知悉任何人士（並非本公司董事或最高行政人員）於本公司股份或相關股份中擁有根據證券及期貨條例第XV部第2及3分部的條文須予披露的權益或淡倉，或根據證券及期貨條例第336條須記入該條所述登記冊的權益或淡倉。



COMPLIANCE WITH NON-COMPETITION DEED

Each of the Controlling Shareholders, namely Mr. Cheng, Mr. Zeng and Best Dawn, has executed a deed of non-competition on 22 February 2018 pursuant to which they have irrevocably and unconditionally undertaken to the Company (for the Company itself and on behalf of the members of the Group) that, during the period that the Non-Competition Deed remains effective, he/it/she shall not, and shall procure that his/its/her close associates (other than any member of the Company) shall not, directly or indirectly, develop, acquire, participate in, hold any right or interest or invest in or engage in, render any services for or otherwise be involved in any business in competition with or likely to be in competition with the existing business activities of the Company in the PRC or any other area in which the Company carries on business.

The Company shall seek opinion and decision from the independent non-executive Directors who are responsible for reviewing and determining whether to accept or decline such new business opportunity provided by Controlling Shareholders or its associates.

The details of the Deed of Non-competition have been disclosed in the Prospectus under the section headed "Relationship with Controlling Shareholders".

The Company has received the annual confirmation of the Controlling Shareholders in respect of their compliance with the non-competition undertakings under the Non-Competition Deed during the year ended 31 December 2019.

The independent non-executive Directors also reviewed the Controlling Shareholders' compliance with the non-competition undertakings. The independent non-executive Directors confirmed that the Controlling Shareholders were not in breach of the non-competition undertakings during the year ended 31 December 2019.

DIRECTORS' INTEREST IN COMPETING BUSINESS

As at 31 December 2019, none of the Directors or their respective associates had engaged in or had any interest in any business which competes or may compete with the businesses of the Group.

遵守不競爭契據

於2018年2月22日，控股股東（即程先生、曾先生及Best Dawn）各別訂立一份不競爭契據，據此，彼等已不可撤回及無條件地向本公司承諾（為其本身及代表本集團成員公司）於不競爭契據維持有效期間，其本身不會，以及其緊密聯繫人（本公司任何成員公司除外）亦不會直接或間接從事、收購、參與與本公司於中國或本公司進行業務的任何其他地區從事的現有業務活動構成競爭或可能構成競爭的任何業務，或於該等業務中持有任何權利或權益或投資或從事或提供任何服務或以其他方式參與該等業務。

本公司應自負責審閱及確定是否接納或拒絕控股股東或其聯繫人所提供的有關新商機的獨立非執行董事尋求意見及決策。

有關不競爭契據的詳情已於招股章程「與控股股東的關係」一節中披露。

本公司已接獲控股股東就截至2019年12月31日止年度遵守不競爭契據項下不競爭承諾的年度確認書。

獨立非執行董事亦已審閱控股股東遵守不競爭承諾的情況。獨立非執行董事確認，截至2019年12月31日止年度，控股股東並無違反不競爭承諾。

董事於競爭業務中的權益

於2019年12月31日，概無董事或彼等各自之聯繫人已從事與本集團業務競爭或可能競爭的任何業務，或於其中持有任何權益。



CONNECTED TRANSACTIONS

During the reporting period, the Group has undergone the following connected transactions:

1. Exempted connected transactions

Construction subcontracting and supply contracts

On 3 December 2018, Beijing Boqi and Sinopec Fifth Construction Co., Ltd. ("Sinopec Fifth Construction") entered into four construction subcontracting and supply contracts (collectively referred to as the "Construction Subcontracting and Supply Contracts"):

- (1) Construction sub-contract in relation to the maintenance and general E&I finishing (defect elimination) work of #1/2/5/7 boilers under the EPC master contract for the ultra-low emission upgrade project of cogeneration boilers of Sinopec Shanghai for the compliance with emission standard ("Construction Sub-contract 1")

The Construction Sub-contract 1 dated 3 December 2018 was entered into by and among Beijing Boqi (main contractor) and Sinopec Fifth Construction (subcontractor), where Sinopec Fifth Construction is responsible for the maintenance and general E&I finishing (defect elimination) work of Boilers #1/2/5/7, which includes the procurement, transportation, installation and inspection of the materials according to the required design and specifications for a fixed sum of RMB550,000. The total construction term was 30 days, which was completed on December 2019.

- (2) Supplemental contract to the sub-contract in relation to maintenance work under the EPC master contract for the upgrade project of #3 and #4 boilers of Sinopec Shanghai's thermal power division for the compliance with emission standard (includes the expedited works for #3 boiler) ("Construction Sub-contract 2")

關連交易

報告期內，本集團進行了以下的關連交易：

一、獲豁免的關連交易

施工分包及供貨合同

於2018年12月3日北京博奇與中石化第五建設有限公司（「中石化五建」）訂立如下四份施工分包及供貨合同（合稱「施工分包及供貨合同」）：

- (1) 上海石化熱電聯產達標排放改造項目鍋爐超低排放EPC總承包項目#1/2/5/7爐機務、電儀一般尾工（消缺）工程施工分包合同（「施工分包合同1」）

日期為2018年12月3日的施工分包合同1是由北京博奇（總承包商）及中石化五建（分包商）訂立，其中中石化五建負責#1/2/5/7爐機務、電儀一般尾工（消缺）工程施工，其中包括按照設計和規範要求對所需材料採購、運輸、安裝及檢驗，固定總價為人民幣550,000元。工期總天數為30天，已於2019年12月完成。

- (2) 上海石化熱電部3號、4號爐達標排放改造EPC總承包建築機務工程分包合同補充合同（#3爐趕工費）（「施工分包合同2」）



The Construction Sub-contract 2 dated 3 December 2018 was entered into by and among Beijing Boqi (main contractor) and Sinopec Fifth Construction (subcontractor), where Beijing Boqi subcontracted the maintenance work to Sinopec Fifth Construction for the expedited works for #3 boiler for a fixed sum of RMB950,000. This included the construction, equipment transportation, labour, adjustment and testing and management under this work. The total construction term was 30 days, which was completed on December 2018.

- (3) Material supply contract in relation to the ultra-low emission dust removal upgrade project of #1, #2 and #3 coal-fired boilers of Chongqing Chuanwei Petrochemical Engineering Company Limited* ("Supply Contract")

The Supply Contract dated 3 December 2018 was entered into by and among Beijing Boqi (main contractor) and Sinopec Fifth Construction (subcontractor), where Beijing Boqi subcontracted the supply of materials to Sinopec Fifth Construction for the construction safety work of the dust removal upgrade project, including dust collectors, steel frames, steel pipes, structural steel, thermal insulation materials, lighting and fireproof materials for a tentative contract value of RMB13,951,170. All of the above main and supplementary materials and consumables shall be procured and supplied by Sinopec Fifth Construction. The Supply Contract is expected to be completed before February 2021.

日期為2018年12月3日的施工分包合同2是由北京博奇(總承包商)及中石化五建(分包商)訂立,其中北京博奇已將3號爐趕工工作的機務工程委託分包給中石化五建進行施工,固定總價為人民幣950,000元。其中包括本工程內施工建設、設備運輸、勞務、調試及管理。工期總天數為30天,已於2018年12月完成。

- (3) 重慶川維化工有限公司燃煤鍋爐超低排放改造項目#1#2#3除塵改造工程材料供貨合同(「供貨合同」)

日期為2018年12月3日的供貨合同是由北京博奇(總承包商)及中石化五建(分包商)訂立,其中北京博奇將除塵改造項目建安工程(包括除塵器本體、鋼支架、鋼管、型鋼、保溫、燈具、防火材料等)的材料供貨委託於中石化五建進行供貨,暫定合同價值為人民幣13,951,170元。以上所有主、輔材料及消耗性材料均將由中石化五建採購並供貨。供貨合同預計2021年2月前完成。



- (4) Construction sub-contract in relation to the ultra-low emission dust removal upgrade project of #1, #2 and #3 coal-fired boilers of Chongqing Chuanwei Petrochemical Engineering Company Limited* of the Sinopec Group (中國石化集團重慶川維化工有限公司) ("Construction Sub-contract 3")

The Construction Sub-contract 3 dated 3 December 2018 was entered into by and among Beijing Boqi (main contractor) and Sinopec Fifth Construction (subcontractor), where Beijing Boqi subcontracted the construction safety work of the dust removal upgrade project to Sinopec Fifth Construction. This included the preparation of the construction, dismantling of the whole original dust removal system, base construction, installation of dust removal and adjustment and testing, for a tentative contract value of RMB23,724,579. The Construction Sub-Contract 3 is expected to be completed before February 2020.

Reasons for and benefits of the transaction

Sinopec Fifth Construction has advanced capabilities in construction and material supply. The signing of the Construction Subcontracting and Supply Contracts enables the Company to complete the EPC master contract for the ultralow emission upgrade project of cogeneration boilers of Sinopec Shanghai for the compliance with emission standard, as well as the dust removal upgrade work of the ultra-low emission upgrade project of coal-fired boilers of Chongqing Chuanwei Petrochemical Engineering Company Limited*, in a more efficient manner with higher quality and cost-savings. The above transaction is entered into on normal commercial terms.

For the year ended 31 December 2019, the payment for the abovementioned construction subcontracting and supply contracts made by Beijing Boqi are as follows:

- (4) 中國石化集團重慶川維化工有限公司燃煤鍋爐超低排放改造項目#1#2#3除塵改造工程施工分包合同(「施工分包合同3」)

日期為2018年12月3日的施工分包合同3是由北京博奇(總承包商)及中石化五建(分包商)訂立,其中北京博奇將除塵改造項目建安工程的工作委託分包給中石化五建實施。包括施工準備、原有電除塵系統整體拆除、基礎施工、除塵器安裝、調試等,暫定合同價值為人民幣23,724,579元。施工分包合同3預計於2020年2月前完成。

進行交易的理由及裨益

中石化五建擁有先進的施工、供貨能力。施工分包及供貨合同的簽訂有助於本公司對上海石化熱電聯產達標排放改造項目的鍋爐超低排放EPC總承包項目、重慶川維化工有限公司燃煤鍋爐超低排放改造項目的除塵改造工程,以更高效、優質而節省成本的方式完成。上述交易乃按一般商業條款訂立。

截至2019年12月31日,北京博奇就上述施工分包及供貨合同支付的款項如下:



No. Transactions			Actual transaction amounts for the year ended December 31, 截至12月31日止年度	
			實際交易金額	
序號	交易		2018	2019
			(RMB thousands)	(RMB thousands)
			2018年	2019年
			(人民幣千元)	(人民幣千元)
1	Construction Sub-contract 1	施工分包合同1	Nil無	Nil無
2	Construction Sub-contract 2	施工分包合同2	Nil無	Nil無
3	Supply Contract	供貨合同	Nil無	7,960,625.47
4	Construction Sub-contract 3	施工分包合同3	Nil無	8,458,143.11

China Petroleum & Chemical Corporation holds 10.91% equity interest in the Company through its wholly-owned subsidiary, Sinopec Overseas Investment Holdings Limited ("Sinopec Overseas"). Sinopec Fifth Construction is controlled by China Petrochemical Corporation through Sinopec Engineering (Group) Co., Ltd. and Sinopec Asset Management Co., Ltd. China Petroleum & Chemical Corporation (the parent company of Sinopec Overseas) and Sinopec Engineering (Group) Co., Ltd. (the parent company of Sinopec Fifth Construction) are fellow subsidiaries of China Petrochemical Corporation. Therefore, according to the Listing Rules, they are connected persons of the Company at the issuer level. The Construction Subcontracting and Supply Contracts accordingly constitute connected transactions of the Company under Chapter 14A of the Listing Rules.

According to Rule 14A.81 of the Listing Rules, if a series of connected transactions are entered into or completed within 12 months or are otherwise interrelated, then such connected transactions shall be aggregated and treated as if they were one transaction. Given the Construction Subcontracting and Supply Contracts are entered into between Beijing Boqi and Sinopec Fifth Construction and of the same transaction nature, the contract values of such contracts shall be aggregated pursuant to Rule 14A.81 of the Listing Rules. As the applicable percentage ratio (except for the profit ratio) upon aggregation exceeded 0.1% but was less than 5%, the contracts are subject to the reporting and announcement requirements but exempted from the circular and shareholders' approval requirements pursuant to Rule 14A.76 of the Listing Rules.

中國石油化工股份有限公司透過其全資子公司中國石化海外投資控股有限公司(「中石化海投」)持有本公司10.91%股權。中石化五建是由中國石油化工集團公司透過中石化煉化工程(集團)股份有限公司及中國石化集團資產經營管理有限公司控制。中國石油化工股份有限公司(中石化海投的母公司)及中石化煉化工程(集團)股份有限公司(中石化五建的母公司)為中國石油化工集團公司的同系附屬公司。故其根據上市規則於發行人層面上為本公司之關連人士。施工分包及供貨合同因此根據上市規則第14A章構成本公司的關連交易。

根據上市規則第14A.81的規定，倘一連串關連交易均於十二個月期間內訂立或完成，又或相關交易彼此有關連，則該等關連交易將合併計算，並視作一項交易處理。鑑於施工分包及供貨合同均為北京博奇與中石化五建簽訂，且交易性質一致，根據上市規則第14A.81的規定，該等合同的合同價值應合併計算。由於合併計算時的適用百分比率(盈利比率除外)超過0.1%但低於5%，根據上市規則第14A.76條須遵守有關申報及公告規定，但獲豁免遵守通函及股東批准的規定。



Directors' Report (Continued)

董事會報告 (續)

For details of the above transactions, please refer to the announcement of the Company dated 3 December 2018.

Procurement Contract

On 8 May 2019, Beijing Boqi and Sinopec Shanghai Gaoqiao Petrochemical Co., Ltd (中國石化上海高橋石油化工有限公司) ("Gaoqiao Petrochemical") entered into a procurement contract in relation to the procurement of steel support stands for a consideration of RMB350,689.65, which was fully settled in December 2019.

The reason and benefit of the transaction: providing procurement services for steel material is one of the ordinary business of the Company, and the purpose of this procurement contract is to satisfy the procurement needs of customers.

China Petroleum & Chemical Corporation holds 10.91% equity interest in the Company through its wholly-owned subsidiary, Sinopec Overseas Investment Holdings Limited ("Sinopec Overseas"). Gaoqiao Petrochemical is a subsidiary wholly-owned by China Petroleum & Chemical Corporation through direct and indirect holdings. Gaoqiao Petrochemical is a fellow subsidiary of Sinopec Overseas, one of the substantial shareholders of the Company. Therefore, according to the Listing Rules, Gaoqiao Petrochemical is a connected person of the Company at the issuer level. The Procurement Contract accordingly constitutes a connected transaction of the Company under Chapter 14A of the Listing Rules.

2. Continuing connected transactions exempt from the circular and shareholder approval requirements

Pursuant to Chapter 14A of the Listing Rules, the continuing connected transactions of the Group as set out below are subject to the reporting, annual review, announcement and independent Shareholders' approval requirements under Chapter 14A of the Listing Rules. The Company has obtained approval from the Stock Exchange in respect of the annual caps of the non-exempt continuing connected transactions upon the Global Offering and such transactions were exempted from announcement and the independent Shareholders' approval requirement.

有關上述交易詳情，請參閱本公司日期為2018年12月3日之公告。

採購合同

於2019年5月8日，北京博奇與中國石化上海高橋石油化工有限公司（「高橋石化」）訂立採購合同，內容有關按代價人民幣350,689.65元採購鋼支架，而該代價已於2019年12月全數結清。

進行交易的理由及裨益：提供鋼材的採購服務是公司的日常業務之一，此採購協議為滿足客戶採購需求。

中國石油化工股份有限公司透過其全資子公司中國石化海外投資控股有限公司（「中石化海投」）持有本公司10.91%股權。高橋石化是由中國石油化工股份有限公司透過直接及間接持股全資擁有的附屬公司。高橋石化是本公司主要股東之一中石化海投的同系附屬公司。故其根據上市規則於發行人層面上為本公司之關連人士。採購合同因此根據上市規則第14A章構成本公司的關連交易。

二、獲豁免遵守通函及股東批准規定的持續關連交易

根據上市規則第14A章，本集團載列如下的持續關連交易須遵守上市規則第14A章項下有關申報、年度審查、公告及獨立股東批准的規定。於全球發售後，本公司已就非豁免持續關連交易的年度上限取得聯交所的批准，且該等交易豁免遵守公告及獨立股東批准的規定。



Design and EPC contracts with Sinopec

1. Technical Service Contract with Fushun Research Institute

Parties: Beijing Boqi and Sinopec Fushun Petrochemical Research Institute of Petroleum and Petrochemicals (中國石油化工股份有限公司撫順石油化工研究院) ("Fushun Research Institute")

Term: September 2017 to December 2019

Contract scope: Beijing Boqi and Fushun Research Institute entered into a technical service contract ("Technical Service Contract") whereby Beijing Boqi provides technical service to Fushun Research Institute in relation to fluid catalytic cracking design for deep dust removal and defogging of regenerative flue gas. Beijing Boqi shall deliver design documents in both hard copy and electronic copy, assist onsite construction and participate in initial debugging work. The technical service provided by Beijing Boqi shall be completed on 31 December 2019, whereas the design work shall be completed within 30 days after signing the Technical Service Contract.

Technical service fee: RMB500,000, which was fully settled on 25 October 2017.

與中石化的設計及EPC合約

1. 與撫順研究院的技術服務合約

訂約方：北京博奇及中國石油化工股份有限公司撫順石油化工研究院(「撫順研究院」)

期限：2017年9月至2019年12月

合約範圍：北京博奇與撫順研究院訂立技術服務合約(「技術服務合約」)，據此，北京博奇為撫順研究院提供有關再生煙氣深度除塵及除霧的流體媒裂法設計技術服務。北京博奇應以複印件及電子版提交設計文件、協助現場建設及參與初步調試。北京博奇所提供的技術服務應於2019年12月31日完成，而設計工程應於簽署技術服務合約後30天內完成。

技術服務費：人民幣500,000元，已於2017年10月25日結清



Directors' Report (Continued)

董事會報告 (續)

Confidentiality: Beijing Boqi shall keep all information obtained under and in relation to the Technical Service Contract confidential.

保密性：北京博奇須就自技術服務合約獲得及與技術服務合約有關的所有資料保密。

Reasons for and benefits of the transaction: This transaction will enhance the engineering design business of the Group and expand the Group's business opportunities with Sinopec and its group of companies for the Group to provide its wide range of services to market players of petro-chemical industry.

進行交易的理由及裨益：此項交易將改善本集團的工程設計業務，並擴大本集團與中石化及其集團公司的商機，以向石油化工行業的市場參與者提供廣泛服務。

2. Sinopec Shanghai EPC project

2. 中國石化上海EPC項目

Parties: Sinopec Shanghai Petrochemical Company Limited (中國石化上海石油化工股份有限公司) ("Sinopec Shanghai") and Beijing Boqi.

訂約方：中國石化上海石油化工股份有限公司(「中國石化上海」)及北京博奇。

Bid and contract scope: On 7 February 2017, Beijing Boqi won a bid for an EPC project in connection with the upgrade of the desulfurization, denitrification and dust removal environmental facilities of a cogeneration power plant of Sinopec Shanghai for the purpose of meeting the "ultra- low emission" standards. On 1 March 2017, Beijing Boqi entered into an EPC contract with Sinopec Shanghai finalizing the winning bid whereby Beijing Boqi will act as the main contractor. The upgrade work involves project design, procurement of equipment and materials, project construction and installation of five boiler fuel gas denitrification facilities ("Upgrade Project").

投標及合約範圍：於2017年2月7日，北京博奇中標中國石化上海為符合「超低排放」標準而升級改造熱電廠脫硫、脫硝、除塵環境設施的EPC項目。於2017年3月1日北京博奇與中國石化上海訂立EPC合同，落實中標，藉此北京博奇將擔任總承包商。改造工程涉及項目設計、設備及材料採購以及項目建設及安裝五套燃氣鍋爐脫硝設施(「改造項目」)。



Price:	RMB224,626,000 (tax inclusive) comprised of construction fee, installation fee, and fee for procurement of equipment and raw materials, which was fully settled in March 2019.	價格：	人民幣224,626,000元(含稅)，包括建設費、安裝費以及設備及原材料採購費，已於2019年3月結清。
Term:	The Upgrade Project is expected to be completed in October 2018.	期限：	該項目已於2018年10月完工。
Reasons for and benefits of the transaction:	This transaction will enhance the desulfurization, denitrification and dust removal business operations of the Group and expand the business opportunities with Sinopec and its group of companies for provision of flue gas treatment business to market players of petro-chemical industry.	進行交易的理由及裨益：	該交易將改善本集團脫硫、脫硝和除塵業務，並擴大與中石化及其集團公司的商機，以向石油化工行業的市場參與者提供煙氣處理業務。



3. Gaoqiao Petrochemical EPC project

On 24 March 2017, Beijing Boqi won a bid for an upgrade project in connection with the upgrade of denitrification facilities and boilers of the power plant of Gaoqiao Petrochemical ("Gaoqiao Petrochemical EPC Project") for the purpose of meeting the "ultra-low emission" standards. On 24 April 2017, Beijing Boqi and Gaoqiao Petrochemical entered into a contract finalizing the winning bid for the Gaoqiao Petrochemical EPC Project whereby Beijing Boqi will act as the main contractor.

The project has been completed and inspected in on April 2019, and the contract price of RMB16,990,000 (tax inclusive) has been fully settled in December 2019.

Reasons for and benefits of the transaction: This transaction will enhance the desulfurization, denitrification and dust removal business operations of the Group and expand the Group's business opportunities with Sinopec and its group of companies for provision of flue gas treatment business to market players of petro-chemical industry.

3. 高橋石油化工EPC項目

於2017年3月24日，北京博奇中標高橋石油化工為符合「超低排放」標準而改造脫硝設施及鍋爐的項目（「高橋石油化工EPC項目」）。於2017年4月24日，北京博奇與高橋石油化工訂立一份合同，落實高橋石油化工EPC項目的中標，藉此北京博奇將擔任總承包商。

該項目已於2019年4月份竣工驗收，而合同價格人民幣16,990,000元（含稅）已於2019年12月結清。

進行交易的理由及裨益：該交易將改善本集團脫硫、脫硝和除塵業務，並擴大與中石化及其集團公司的商機，以向石油化工行業的市場參與者提供煙氣處理業務。



4. Sinopec Shanghai #3-4 EPC project

Parties: Sinopec Shanghai and Beijing Boqi.

Bid and contract scope: On 14 August 2017, Beijing Boqi won a bid for an EPC project in connection with the upgrade of the #3-4 boiler of a cogeneration power plant of Sinopec Shanghai for the purpose of meeting the "ultra-low emission" standards ("#3-4 Upgrade Project") On 7 September 2017, Beijing Boqi entered into an EPC contract with Sinopec Shanghai finalizing the winning bid whereby Beijing Boqi will act as the main contractor. The upgrade work involves project design, procurement of equipment and materials, project construction and installation.

Term: The project was completed on November 2018.

Price: RMB91,123,500.00 (including tax) comprised of construction fee, installation fee, fee for procurement of equipment and raw materials, which was fully settled in March 2019.

4. 中國石化上海3-4號EPC項目

訂約方：中國石化上海及北京博奇

投標及合約範圍：於2017年8月14日，北京博奇中標中國石化上海為符合「超低排放」標準而改造中國石化上海的熱電廠的3-4號鍋爐的EPC項目（「3-4號改造項目」）。於2017年9月7日，北京博奇與中國石化上海訂立EPC合同，落實中標，藉此北京博奇將擔任總承包商。改造工程涉及項目設計、設備及材料採購以及項目建設及安裝。

期限：項目已於2018年11月完成。

價格：為人民幣91,123,500.00元（含稅），包括建設費、安裝費、設備及原材料採購費，已於2019年3月結清。



Reasons for and benefits of the transaction: This transaction will enhance the desulfurization, denitrification and dust removal business operations of the Group and expand the business opportunities with Sinopec and its group of companies for provision of flue gas treatment business to market players of petro-chemical industry.

Fushun Research Institute is a branch of China Petroleum & Chemical Corporation, the parent company of Sinopec Overseas Investment Holding Limited (中國石化海外投資控股有限公司), one of the substantial shareholders of the Company, whereas Sinopec Shanghai and Gaoqiao Petrochemical are fellow subsidiaries (as defined under the Listing Rules) of Sinopec, being owned as to 50.56% and 55%, respectively, by China Petroleum & Chemical Corporation, and each of them is therefore a connected person of the Company under Rule 14A.07(4) of the Listing Rules. Given the above continuing connected transactions were all made with the group companies of China Petroleum & Chemical Corporation, the parent company of Sinopec, pursuant to which income shall be received by the Group in relation to the design and EPC services provided. Such transactions shall be aggregated in accordance with Rule 14A.81 of the Listing Rules. The above transaction is entered into on normal commercial terms. Prior to the Listing, the Company had applied to the Stock Exchange and the Stock Exchange had granted the Company, a waiver from strict compliance with the rules regarding the announcement and independent shareholders' approval requirements under Chapter 14A of the Listing Rules, on the condition that the aggregate amount of continuing connected transactions with Sinopec for the year 2018 would not exceed the annual cap set out in the Prospectus.

進行交易的理由及裨益：該交易將改善本集團脫硫、脫硝和除塵業務，並擴大與中石化及其集團公司的商機，以向石油化工行業的市場參與者提供煙氣處理業務。

撫順研究院為本公司的主要股東之一中國石化海外投資控股有限公司的母公司中國石油化工股份有限公司之分公司，中國石化上海及高橋石油化工為中石化（由中國石油化工股份有限公司分別擁有50.56%及55%股權）的同系附屬公司（定義見上市規則），因此，根據上市規則第14A.07(4)條，彼等各均為本公司的關連人士。鑒於上述持續關連交易乃均與中石化的母公司中國石油化工股份有限公司的集團公司進行，據此，收入應由本集團就所提供設計及EPC服務收取，而有關交易須根據上市規則第14A.81條合併計算。上述交易乃按一般商業條款訂立。於上市前，本公司已向聯交所申請且聯交所已批准本公司獲豁免嚴格遵守上市規則第14章項下有關公告及獨立股東批准的規定，條件為中石化於2018年的持續關連交易的總額不得超過招股章程所載的年度上限。



Technology Licensing Contract with Fushun Research Institute

As part of the Upgrade Project, Beijing Boqi and Fushun Research Institute entered into two technology licensing contracts (“Technology Licensing Contracts”) in 14 September 2017 and 6 September 2018, pursuant to which Beijing Boqi was licensed to use certain patents and know-how of Fushun Research Institute for the purpose of carrying out of the Upgrade Project.

Fushun Research Institute is a branch of China Petroleum & Chemical Corporation, the parent company of Sinopec, one of the substantial shareholders of the Company, and is therefore a connected person of the Company under Rule 14A.07(4) of the Listing Rules.

1. Technology Licensing Contract 1

Parties: Beijing Boqi and Fushun Research Institute

Term: 5 years

與撫順研究院的技術許可合約

作為改造項目的一部分，北京博奇與撫順研究院分別於2017年9月14日及2018年9月6日訂立兩份技術許可合約（「技術許可合約」），據此，北京博奇獲許可使用撫順研究院的若干專利及技術，以進行改造項目。

撫順研究院為本公司的主要股東之一中石化的母公司中國石油化工股份有限公司之分公司。因此，根據上市規則第14A.07(4)條，撫順研究院為本公司的關連人士。

1. 技術許可合約一

訂約方：北京博奇及撫順研究院

期限：五年



Directors' Report (Continued)

董事會報告 (續)

Contract scope:	Beijing Boqi was licensed to use the patents and know-how of Fushun Research Institute for the carrying out of the Upgrade Project to achieve “ultra-low emission” standards. The patents and know-how relate to the denitrification catalyst and SCR technology. Beijing Boqi was licensed to use the patent and know-how from the signing date of the Technology Licensing Contract until December 2018, and shall use the patent and know-how within 365 days from the signing date of the Technology Licensing Contract. During the term of the Technology Licensing Contract, Beijing Boqi may make subsequent development in respect of the patent and know-how which it is licensed to use. The parties will enter into separate agreements in respect of the distribution of interests if any interests arisen in relation to the development of patent and know-how.	合約範圍：	北京博奇獲許可使用撫順研究院的專利及技術，以進行改造項目，從而遵守「超低排放」標準。相關專利及技術與脫硝催化劑及SCR技術有關。北京博奇獲得許可，於技術許可合同簽署日期至2018年12月期間使用相關專利及技術並於簽署日期後365天內使用專利及技術。於技術許可合約的期限內，北京博奇可能就其獲准使用的專利及技術進行後續開發。倘開發專利及技術產生任何相關利益，訂約方將就利益分配訂立獨立協議。
Payment of licensing fee:	Beijing Boqi shall pay RMB2,150,000 to Fushun Research Institute for its license to use the patents and know-how, which was settled on 11 October 2017.	支付特許費：	北京博奇應就其獲許可使用專利及技術向撫順研究院支付人民幣2,150,000元，已於2017年10月11日結清。
Confidentiality:	Beijing Boqi is under the obligation of confidentiality in respect of the use of patents and know-how of Fushun Research Institute. Such obligation continues to survive 5 years after the termination of the Technology Licensing Contract.	保密性：	北京博奇須就使用撫順研究院的專利及技術承擔保密責任。相關責任於技術許可合約終止後五年繼續有效。



The above transaction was entered into on normal commercial terms. Prior to the Listing, the Company had applied to the Stock Exchange and the Stock Exchange had granted the Company, a waiver from strict compliance three year term requirement for continuing connected transactions under Rule 14A.52 of the Listing Rules.

上述交易乃按一般商業條款訂立。於上市前，本公司已向聯交所申請且聯交所已批准本公司獲豁免嚴格遵守上市規則第14A.52條項下持續關連交易的三年期限規定。

2. TECHNOLOGY LICENSING CONTRACT 2

Date of contract: 6 September 2018

Parties: Beijing Boqi and Fushun Research Institute

Term: From contract signing date to 31 December 2019

2. 技術許可合約二

簽訂日期：2018年9月6日

訂約方：北京博奇及撫順研究院

期限：自合同簽訂日起至2019年12月31日

The principal terms are summarized as follows:

主要條款概述如下：

- (1) There are 3 patents (“the patents”) in total granted under this contract. The details of these patents are as follows:
- (i) Nature: Invention patents (invention, utility model and appearance design);
 - (ii) Patentee: Fushun Research Institute of China Petroleum & Chemical Corporation;
 - (iii) Patent numbers: ZL201210409848.0, ZL201020569738.7 and ZL201010222036.6.

- (1) 本合同下許可實施的專利權共3項(「本項專利」)，該等專利之細節為：
- (i) 性質：發明(發明、實用新型、外觀設計)專利；
 - (ii) 專利權人：中國石油化工有限公司撫順研究院；
 - (iii) 專利號為：ZL201210409848.0、ZL201020569738.7、ZL201010222036.6。



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| (2) Contract scope: Beijing Boqi is licensed to use the patents and know-how of the flue gas ultra-clean emission denitrification technology of Fushun Research Institute for the implementation of the Upgrade Project to comply with the "ultra-low emission" standards. Relevant patents and know-how relate to the denitrification catalyst and SCR technology. | (2) 合同範圍：北京博奇獲許可使用撫順研究院擁有的煙氣超潔淨排放脫硝技術專利權、技術秘密，以進行改造項目，從而遵守超低排放標準。相關專利及技術與脫硝催化劑及SCR脫硝技術有關。 |
| (3) Obligations of Fushun Research Institute: Fushun Research Institute shall submit the following materials to Beijing Boqi: (i) The industrial process documents required for applying the technology and know-how, and (ii) The technical solutions for flue gas denitrification treatment of Shanghai Petrochemical Coal-fired Power Plant. Beijing Boqi is licensed to use the patents and know-how within 365 days from the signing date of the Technology Licensing Contract. | (3) 撫順研究院義務：撫順研究院應向北京博奇提交以下資料：(i)為實施本專利、技術秘密所必須的工藝流程文件；及(ii)上海石化燃煤電廠煙氣脫硝處理技術工藝包。北京博奇自本合同簽署後365日內開始實施本項專利和技術秘密。 |
| (4) Confidentiality: Beijing Boqi is under the obligation of confidentiality in respect of the use of patents and knowhow of Fushun Research Institute. Such obligation continues to survive 5 years after the termination of the Technology Licensing Contract. | (4) 保密性：北京博奇須就使用撫順研究院的專利及技術承擔保密責任。相關責任於技術許可合同終止後五年繼續有效。 |
| (5) Licensing fee: Beijing Boqi shall pay RMB900,000 to Fushun Research Institute for its license to use the patents and know-how. Such amount was determined after arm's length negotiations between Beijing Boqi and Fushun Research Institute with reference to normal commercial terms and market rates. | (5) 特許費：北京博奇應就其獲許可使用專利及技術向撫順研究院支付人民幣900,000元，該款額乃北京博奇與撫順研究院經公平磋商並參考一般商業條款及市價後協定。 |
| (6) Payment: Licensing fee of Technology Licensing Contract 2 of RMB900,000 was settled on 30 October 2018. | (6) 付款：技術許可合約二的特許費人民幣900,000元已於2018年10月30日結清。 |



Reasons for and the benefits of the transaction: The signing of the Technology Licensing Contract will benefit the Company's Upgrade Project of #3 and #4 Boilers of Sinopec Shanghai's Thermal Power Division for the Compliance with Emission Standard. With the advanced flue gas ultra-clean emission denitrification technology, the flue gas treatment performance can be improved so that the upgrade project can be completed more efficiently and with better quality.

For details of the Technology Licensing Contract 2, please refer to the announcement of the Company dated 6 September 2018.

The above transaction is entered into on normal commercial terms. According to Rule 14A.81 of the Listing Rules, if a series of connected transactions are entered into or completed within 12 months or are otherwise interrelated, then such connected transactions shall be aggregated and treated as if they were one transaction. As both the Technology Licensing Contracts are signed with Fushun Research Institute and of the same transaction nature, these two contracts shall be aggregated in accordance with Rule 14A.81 of the Listing Rules. As the applicable percentage (except for the profit ratio) at the time of the aggregation exceeded 0.1% but was less than 5%, both contracts are subject to the reporting and announcement requirements but exempted from the circular and shareholders' approval requirements, pursuant to Rule 14A.76 of the Listing Rules.

Shouyang Contract

An EPC master contract dated December, 2015 (the "Shouyang Contract") was entered into by and among Beijing Boqi and Yangmei Group Shouyang Boqi Electric Co., Ltd (陽煤集團壽陽博奇發電有限責任公司) (previously known as Shanxi Shouyang Mingtai Guoneng Power Co., Ltd) (山西壽陽明泰國能發電有限公司) ("Shouyang Power"), in relation to Shanxi Yangquan Coal Industry (Group) Company Limited Shouyang Mingtai Green Island General Contractor Project, with the capacity of 2*350 MW (the "Shouyang Green Island Project").

進行交易的理由及裨益：本合同的簽訂有助於本公司上海石化熱電部3號、4號爐達標排放改造項目通過採用其先進的煙氣超潔淨排放脫硝技術，提高煙氣處理效率，更高效、優質地完成改造工程。

有關技術許可合約二的交易詳情，請參閱本公司日期為2018年9月6日之公告。

上述交易乃按一般商業條款訂立。根據上市規則第14A.81條的規定，倘一連串關連交易均於十二個月期間內訂立或完成，又或相關交易彼此有關連，則該等關連交易將合併計算，並視作一項交易處理。由於技術許可合約均為與撫順研究院簽訂，且交易性質一致，根據上市規則第14A.81條的規定，該等技術許可合約應合併計算。由於合併計算時的適用百分比率（盈利比率除外）超過0.1%但低於5%，根據上市規則第14A.76條，該等合約須遵守有關申報及公告規定，但獲豁免遵守通函及股東批准的規定。

壽陽合約

日期為2015年12月的EPC總合同（「壽陽合約」）由北京博奇及陽煤集團壽陽博奇發電有限責任公司（前稱山西壽陽明泰國能發電有限公司）（「壽陽發電」）就山西陽泉煤業集團有限責任公司壽陽明泰環保島總承包項目（「壽陽環保島項目」，容量為2×350 MW）訂立。



Under the Shouyang Green Island Project, Beijing Boqi shall act as the main contractor, which involved, among others, project design, procurement of equipment and materials, construction and installment in relation to desulfurization and denitrification and dust removal for low calorific value thermal power plant.

The consideration of the Shouyang Green Island Project Price is RMB287,560,000 (including tax) and RMB76,574,000 of which was settled in 2016 and 2017. The remaining amount of the contract value shall be paid monthly according to the progress of the Shouyang Green Island Project. 5% of the contract value shall be paid by Shouyang Power to Beijing Boqi as quality guarantee after one year period when no quality issue is raised.

Reasons for and the benefits of the transaction

Carrying out environmental protection facility engineering projects is the usual course of business of Company and entering into such transaction would enable us to consolidate the Company's marketpresence in the Shanxi Province where Shouyang Power is situated.

Due to the national policy in the restriction on the expansion of coal-fired power plants, the construction of Shouyang Green Island Project was suspended and therefore delayed. The construction of Shouyang Green Island Project under the Shouyang Contract expects to resume in 2020. In event that the construction of Shouyang Green Island Project resumes, the Company will comply with the relevant disclosure requirements in accordance with Chapter 14A of the Listing Rules.

根據壽陽環保島項目，北京博奇將作為總承包商，其中涉及（其中包括），有關低熱值火電廠的脫硫、脫硝及除塵設施的項目設計、設備及材料採購、建設及安裝。

壽陽環保島項目的代價為人民幣287,560,000元(含稅)，其中人民幣76,574,000元已於2016年及2017年償付。合同價值餘額將根據壽陽環保島項目的進度按月支付。倘於一年後並無出現質量問題，壽陽發電將向北京博奇支付合同價值的5%作質量保證金。

交易理由及裨益

環保設施工程項目的執行屬於我們日常業務過程，且進行有關交易將讓我們可鞏固於山西省（壽陽發電所在地）的市場地位。

由於國家限制擴展燃煤發電廠的政策，壽陽環保島項目的建設經已暫停並因此延誤。預期壽陽合同項下的壽陽環保島項目的建設將於2020年內恢復。倘壽陽環保島項目恢復建設，本公司將遵守上市規則第14A章的有關披露規定。



Shouyang Power, through various intermediaries, is 40% held by Mr. Cheng and Mr. Zeng, the ultimate controlling shareholders of the Company and is therefore a connected person of the Company under Rule 14A.07(4) of the Listing Rules. The above transaction is entered into on normal commercial terms. Prior to the Listing, the Company had applied to the Stock Exchange and the Stock Exchange had granted the Company, a waiver from strict compliance with the rules regarding the announcement and independent shareholders' approval requirements under Chapter 14A of the Listing Rules, on the condition that the respective aggregate amounts of non-exempt continuing connected transaction with Shouyang Power for the years 2018 and 2019 would not exceed the respective annual caps set out in the Prospectus.

Yangxi Project

On 31 December 2016, Beijing Boqi, Guangdong Huaxia Electric Development Co., Ltd (廣東華廈電力發展有限公司) ("Guangdong Huaxia Electric") and Yangxi Haibin Electric Power Development Co., Ltd (陽西海濱電力發展有限公司) ("Yangxi Electric") entered into a management service agreement ("Yangxi Management Service Agreement") in relation to the provision of operation, daily maintenance and repair services in respect of the #1-#4 desulfurization and denitrification facilities owned by Yangxi Electric ("Yangxi Facilities") prior to the completion of the acquisition of the Yangxi Facilities under the cooperation framework agreement dated 20 May 2016 entered into between the said parties ("Cooperation Framework Agreement"). On the same day, Beijing Boqi, Guangdong Huaxia Electric and Yangxi Electric entered into an ultra-low emission upgrade project cooperation agreement ("Upgrade Project Cooperation Agreement"), under which Beijing Boqi agreed to construct "ultra-low emission" units to #1-2 desulfurization and denitrification facilities of the Yangxi Facilities for Yangxi Electric. However, no similar arrangement was entered into in relation to #3-4 desulfurization and denitrification facilities as the "ultra-low emission upgrade units have already been constructed and completed by Yangxi Electric at the time the parties entered into the Upgrade Project Cooperation Agreement. On 1 January 2017, Beijing

壽陽發電由本公司的最終控股股東程先生及曾先生透過多個中介公司持有40%，故此根據上市規則第14A.07(4)條為本公司的關連人士。上述交易按一般商業條款訂立。於上市前，本公司已向聯交所申請且聯交所已批准本公司豁免嚴格遵守上市規則第14A章項下公告及獨立股東批准規定，惟壽陽發電於2018年及2019年的非豁免持續關連交易各自的總金額不得超過招股章程所載的相關年度上限。

陽西項目

於2016年12月31日，北京博奇、廣東華廈電力發展有限公司（「廣東華廈電力」）及陽西海濱電力發展有限公司（「陽西電力」）訂立管理服務協議（「陽西管理服務協議」），內容有關於根據上述訂約方訂立日期為2016年5月20日的合作框架協議（「合作框架協議」）完成收購陽西設施前向陽西電力擁有的1-4號脫硫及脫硝設施（「陽西設施」）提供運營、日常維護及修復服務。於同日，北京博奇、廣東華廈電力與陽西電力訂立超低排放改造項目合作協議（「改造項目合作協議」），據此，北京博奇同意為陽西電力興建陽西設施的1-2號脫硫及脫硝設施的「超低排放」改造機組。然而，由於「超低排放」改造機組已由陽西電力於訂約方訂立改造項目合作協議時興建及完成，故並無就3-4號脫硫及脫硝設施訂立類似安排。於2017年1月1日，北京博奇、廣東華廈電力與陽西電力另行訂立補充協議，以釐定陽西管理服務協議的定價條款（「陽西服務定價協議」）。



Boqi, Guangdong Huaxia Electric and Yangxi Electric further entered into a supplemental agreement solely to determine the pricing terms of the Yangxi Management Service Agreement (the "Yangxi Service Pricing Agreement"). Due to an unexpected delay in the release of the mortgage on the Yangxi Facilities, the completion of the proposed acquisitions of the Yangxi Facilities under the Cooperation Framework Agreement was delayed, and it was agreed between Beijing Boqi, Guangdong Huaxia Electric and Yangxi Electric not to proceed with the proposed acquisitions of the Yangxi Facilities. Accordingly, on 28 August 2017, Beijing Boqi, Guangdong Huaxia Electric and Yangxi Electric entered into a supplemental agreement ("Yangxi Supplemental Agreement") under which, the proposed acquisitions of the Yangxi Facilities under the Cooperation Framework Agreement, were terminated. On the same day, Beijing Boqi, Guangdong Huaxia Electric and Yangxi Electric entered into a supplemental agreement (the "Yangxi Supplemental Management Service Agreement", together with Yangxi Management Service Agreement and the Yangxi Service Pricing Agreement as "Yangxi Agreements") to supersede and extend the term of the services under the Yangxi Management Services Agreement from 1 January 2017 to 30 September 2017 to a term from 1 January 2017 to 31 December 2025. Other provisions in relation to the services and ancillary services to be provided by Beijing Boqi under the Yangxi Management Services Agreement remain unchanged for the extended term.

Yangxi Agreements

Under the Yangxi Agreements, Beijing Boqi provides operation, daily maintenance and repair services in respect of the Yangxi Facilities to Yangxi Electric for a term from 1 January 2017 to 31 December 2025.

Parties: Beijing Boqi, Guangdong Huaxia Electric and Yangxi Electric

Term of the agreement: 1 January 2017 to 31 December 2025.

基於陽西設施的按揭意外地延遲解除，以及合作框架協議項下陽西設施的擬議收購事項延遲完成，故北京博奇、廣東華廈電力及陽西電力已協定不再進行陽西設施的擬議收購事項。因此，北京博奇、廣東華廈電力及陽西電力於2017年8月28日訂立補充協議（「陽西補充協議」），據此，合作框架協議項下的陽西設施的擬議收購事項已終止。同日，北京博奇、廣東華廈電力及陽西電力訂立補充協議（「陽西補充管理服務協議」，連同陽西管理服務協議及陽西服務定價協議統稱為「陽西協議」）以將陽西管理服務協議服務期限由2017年1月1日至2017年9月30日延長至2017年1月1日至2025年12月31日。與北京博奇根據陽西管理服務協議提供的服務及輔助服務有關的其他條文於延長期限內保持不變。

陽西協議

根據陽西協議，北京博奇就陽西設施向陽西電力提供運營、日常維護及維修服務，期限自2017年1月1日起至2025年12月31日止。

訂約方：北京博奇、廣東華廈電力及陽西電力

協議期限：2017年1月1日至2025年12月31日。



Services to be provided:	The services to be provided by Beijing Boqi include the operation, daily maintenance and repair of Yangxi Facilities. Beijing Boqi is also responsible for the materials used in the services provided as well as treatment of waste created during the provision of such services.	將予提供的服務：	北京博奇將予提供的服務包括陽西設施的營運、日常維護及維修。北京博奇亦負責供應所提供服務使用的材料及處理提供有關服務過程產生的廢棄物。
Service fee policy:	The service fee under the Yangxi Agreements is calculated based on the on-grid power generation multiplied by a rate which is determined by the parties. The pricing terms of the Yangxi Agreements were determined under the Yangxi Service Pricing Agreement. Such pricing terms are arrived at on arm's length negotiations between Beijing Boqi, Yangxi Electric and Guangdong Huaxia Electric and are determined with reference to (i) the relevant subsidies with respect to desulfurization and denitrification as set by the government; and (ii) the fees and expenses in respect of the operation, management and maintenance of the desulfurization and denitrification facilities.	服務費政策：	陽西協議項下的服務費乃按上網電量乘以訂約方釐定的服務費率。陽西協議的定價條款根據陽西服務定價協議釐定。該定價條款乃經北京博奇、陽西電力及廣東華廈電力公平磋商後達致，並經參考(i)政府制定的脫硫及脫硝的相關補貼；及(ii)經營、管理及維護脫硫及脫硝設施的費用及開支釐定。
Payment obligation:	Yangxi Electric shall pay to Beijing Boqi the service fee within 15 days of Yangxi Electric receiving the electricity fee from the State Power Grid. Beijing Boqi shall pay to Yangxi Electric a performance guarantee in an amount of RMB139,000,000 for guaranteeing its work and performance under the Yangxi Agreements and safe operation of the Yangxi Facilities.	付款義務：	陽西電力須於陽西電力自電網公司收取電費後15日內向北京博奇支付服務費用。 根據陽西補充管理服務協議，北京博奇須向陽西電力支付履約保證金人民幣139,000,000元，以為其於陽西協議項下的工程及績效以及陽西設施的安全營運作擔保。



The above performance guarantee is arrived at on arm's length negotiations between Beijing Boqi, Guangdong Huaxia Electric and Yangxi Electric and determined based on the estimated service fee to be received (i.e. the estimated on-grid power generation multiplied by a rate (10%) which is determined by the parties) multiplied by the term of the Yangxi Agreements (i.e. 8 years). Such performance guarantee has been paid to Yangxi Electric and shall be refunded to Beijing Boqi upon completion of the term of the Yangxi Agreements.

Ancillary charges: Under the Yangxi Agreements, Beijing Boqi shall pay to Yangxi Electric before the 10th day of each month the ancillary charges, including relevant operation fees such as water, electricity, vapor, gas, environmental protection penalty and pollution tax fees and other relevant operational charges.

Yangxi Electric is a wholly-owned subsidiary of Guangdong Huaxia Electric, which is owned and controlled by, through various intermediaries, Mr. Zhu Yihang, the brother and associate of Mr. Zhu, one of our substantial shareholders and is therefore a connected person of the Company under Rule 14A.07(4) of the Listing Rules. The above transaction is entered into on normal commercial terms. Prior to the Listing, the Company had applied to the Stock Exchange and the Stock Exchange had granted the Company, a waiver from (i) strict compliance three year term requirement for continuing connected transactions under Rule 14A.52 of the Listing Rules and (ii) strict compliance with the rules regarding the announcement and independent shareholders' approval requirements under Chapter 14A of the Listing Rules, on the condition that the respective aggregate amounts of non-exempt continuing connected transactions with Yangxi Electric for the years 2018, 2019 and 2020 would not exceed the respective annual caps set out in the Prospectus.

上述履約保證金乃基於預計將收取的服務費(即預計上網電量乘以由訂約雙方釐定的服務費率(10%))乘以陽西協議的年期(即8年)經北京博奇、廣東華廈電力及陽西電力公平磋商後釐定。相關履約保證金已向陽西電力支付,並將在陽西協議條款完成後退還北京博奇。

輔助費用: 根據陽西協議,北京博奇將於每月第10日前向陽西電力支付輔助費用,包括水、電、蒸汽、汽、環保罰款及排汙稅費等相關運營費用。

陽西電力為廣東華廈電力的全資附屬公司,而廣東華廈電力由我們的主要股東之一朱先生的兄弟及聯繫人朱一航先生透過多家中介公司擁有及控制權益,故此根據上市規則第14A.07(4)條為本公司的關連人士。上述交易按一般商業條款訂立。於上市前,本公司已向聯交所申請且聯交所已批准本公司豁免(i)嚴格遵守上市規則第14A.52條項下持續關連交易的三年期限規定;及(ii)嚴格遵守上市規則第14A章項下公告及獨立股東批准規定,條件是於2018年、2019年及2020年與陽西電力的非豁免持續關連交易的相關總金額不得超過招股章程所載的相關年度上限。



Reference is made to the announcement of the date of the Company dated 12 March 2019 and the circular dated 31 May 2019, which relate to, among other things, the Transaction Amount of the Yangxi Agreement. The service fee for O&M services was approximately RMB261.74 million, exceeding the existing 2018 annual cap by an amount of RMB16.74 million; and the ancillary charges was approximately RMB89.72 million, exceeding the existing 2018 annual cap by an amount of RMB4.67 million. Therefore, the highest applicable percentage ratio in respect of the actual 2018 Transaction Amount exceeded 5%, accordingly the transactions under the Yangxi Agreements with Guangdong Huaxia Electric and Yangxi Electric for the year ended 31 December 2018 are subject to the reporting, annual review, announcement and Independent Shareholders' approval requirements under chapter 14A of the Listing Rules. Therefore, the transactions under the Yangxi Agreements for the year ended 31 December 2018 are subject to the ratification of the Independent Shareholders at the EGM.

The annual cap and actual transaction amounts for the transactions under the Yangxi Agreements for the year ended December 31, 2019 are set out as follows:

茲提述本公司日期為2019年3月12日之公告以及本公司日期為2019年5月31日之通函，內容有關(其中包括)陽西協議交易金額，其營運及管理服務的服務費約為人民幣261.74百萬元，超過現有2018年度上限人民幣16.74百萬元；附加費用約為人民幣89.72百萬元，超過現有2018年度上限人民幣4.67百萬元。因此，2018年實際交易金額的最高適用百分比率超過5%，故於截至2018年12月31日止年度與廣東華廈電力及陽西電力訂立的陽西協議項下的交易須遵守上市規則第14A章有關申報、年度審閱、公告及獨立股東批准規定。因此，截至2018年12月31日止年度，陽西協議項下的交易須經獨立股東於股東特別大會上追認。

截至2019年12月31日止年度，陽西協議項下交易之年度上限及實際交易金額載列如下：

		Actual transaction amount for the year ended 31 December 2019 截至2019年12月31日止年度之實際交易金額 (RMB million) (人民幣百萬元)	Annual cap for the year ended 31 December 2019 截至2019年12月31日止年度之年度上限 (RMB million) (人民幣百萬元)	Annual cap for the year ended 31 December 2020 截至2020年12月31日止年度之年度上限 (RMB million) (人民幣百萬元)
Service fees	服務費用	172.97	302.30	302.30
Ancillary charges	附加費用	66.13	103.63	103.63



Upgrade Project Cooperation Agreement

On 31 December 2016, Beijing Boqi and Yangxi Electric entered into the Upgrade Project Cooperation Agreement, pursuant to which Beijing Boqi agreed to construct the “ultra-low emission” upgrade units to #1-2 desulfurization and denitrification facilities of the Yangxi Facilities for Yangxi Electric. Pursuant to the Upgrade Project Cooperation Agreement, the ultra-low emission upgrade works conducted by Beijing Boqi include, among others, the upgrade of the desulfurization system, detection and repair of the absorption tower of #1-2 desulfurization and denitrification facilities of the Yangxi Facilities and the upgrade of model of the continuous emission monitoring system for the purpose of enabling Guangdong Huaxia Yangxi Power Plant to comply with the new “ultra- low emission” standards. The total contract value of the Upgrade Project Cooperation Agreement is RMB23,200,000 which consists of the design fee, the equipment fee and the construction and installation fee, and such fees will be borne by Beijing Boqi. Beijing Boqi will pay to Yangxi Electric certain compensations if (a) Beijing Boqi has caused delay in completing the ultra-low emission upgrade works under the Upgrade Project Cooperation Agreement; (b) Beijing Boqi is solely responsible for the non- compliance of the #1-2 desulfurization and denitrification facilities of the Yangxi Facilities with the ultra-low emission standards; and/or (c) Beijing Boqi has solely caused the halt or load decrement of #1-2 desulfurization and denitrification facilities of the Yangxi Facilities.

Reasons for and benefits of the transactions under the Yangxi Agreements and Upgrade Project Cooperation Agreement:

改造項目合作協議

於2016年12月31日，北京博奇與陽西電力訂立改造項目合作協議，據此，北京博奇同意為陽西電力的陽西設施1-2號脫硫及脫硝設施興建「超低排放」改造機組。根據改造項目合作協議，北京博奇進行的超低排放改造工程包括（其中包括）改造脫硫系統、檢測及維修陽西設施1-2號脫硫及脫硝設施吸收塔以及改造持續排放監測系統型號，以令廣東華廈陽西發電廠遵守新「超低排放」標準。改造項目合作協議的合約總金額為人民幣23,200,000元，包括設計費、設備費及建設及安裝費，相關費用由北京博奇承擔。倘(a)北京博奇導致改造項目合作協議項下的超低排放改造工程延遲完工；(b)北京博奇單獨就違反陽西設施1-2號脫硫及脫硝設施超低排放標準負責；及／或(c)北京博奇單方面導致陽西設施1-2號脫硫及脫硝設施暫停或負載減少，北京博奇將向陽西電力支付若干賠償。

根據陽西協議及改造項目合作協議進行的交易的理由及裨益：



Since the issue of the Action Plan of Energy Saving, Emission Reduction, Upgrading and Retrofitting of Coal-fired Power Plants (2014-2020) which tightened the emission limits for newly-built coal-fired power plants in September 2014 and the Proposals for Comprehensively Implementing the Ultra-low Emissions and Energy Conservation Upgrade of Coal-fired Power Plants in December 2015, which requires the comprehensive implementation of "ultra-low emission" and energy conservation upgrade on coal-fired generator sets by 2020, coal consumption and pollution emission standards have been significantly tightened. To comply with such stringent standards, and minimize operational risk while also minimizing the costs to be incurred, notwithstanding that Yangxi Electric is capable of operating the Yangxi Facilities, Yangxi Electric engaged Beijing Boqi, being a leading independent flue gas treatment integrated service provider who have earned numerous highly recognised awards in the flue gas treatment industry, and having been already familiarized with the operations and facilities of Yangxi Electric, including the Yangxi Facilities, through the prior business dealings with Yangxi Electric in connection with the Yangxi Facilities as a result of the potential acquisition under the Cooperation Framework Agreement, to be the sole desulfurization and denitrification service provider for its power plant during the term of the Yangxi Agreements. Further, it is in the benefit of Yangxi Electric to retain only one desulfurization and denitrification service provider for the Yangxi Facilities for the purpose of minimizing costs and eliminating the need to manage a number of different service providers with different points of contact and who may use different quality management systems.

由於收緊新建燃煤發電廠排放限額的煤電節能減排升級與改造行動計劃(2014至2020年)於2014年9月頒佈及全面實施燃煤電廠超低排放和節能改造工作方案於2015年12月頒佈,要求燃煤發電機組於2020年前全面實施「超低排放」及節能改造,耗煤及污染物排放標準大幅收緊。為遵守相關嚴格標準,降低經營風險,同時減少將產生的成本,儘管陽西電力能經營陽西設施,陽西電力委聘北京博奇於陽西協議期限內為其電廠的唯一脫硫及脫硝服務提供商。北京博奇作為領先的獨立煙氣處理綜合服務提供商於煙氣處理行業榮獲多項備受認可的獎項,透過因合作框架協議項下的潛在收購而與陽西電力就陽西設施進行的業務交易,早已熟悉陽西電力(包括陽西設施)的運營及設施。此外,僅就陽西設施保留一名脫硫脫硝服務提供商以降低成本及免除管理聯絡點不同且可能使用不同質量管理體系的多名不同服務提供商的需求符合陽西電力的利益。



Provision of O&M services is the Company's usual course of business. By entering into the Yangxi Agreements and the transactions thereunder, Beijing Boqi will leverage its relevant professional experience and strengths in the operation, maintenance and management of the desulfurization and denitrification facilities and the "ultra-low emission" units, export its management experience and gain reasonable income and returns. The execution of the Yangxi Agreements is in line with the Group's overall strategy and business focus of engaging in the operation, management and maintenance of the desulfurization and denitrification facilities and the "ultra-low emission" units and will enhance the Company's market presence in Guangdong province. The enhancement of the Group's competitive edge in its core business is in the interests of the Group as a whole.

According to the Notice on Issuing the Plan for Nationwide Implementation of Ultra-low Emissions and Energy Saving Reform on Coal-fired Power Plant 《(關於印發<全面實施燃煤電廠超低排放和節能改造工作方案>的通知)》 (the "Notice"), the PRC government will give those coal-fired power plants, which satisfy ultra-low emissions standards, electricity price subsidies and generating rewards to encourage ultra-low emissions and energy saving reform in power plants.

It is in the benefit of the Group to construct such "ultra-low emission" upgrade units in order to receive the "ultra-low emission" subsidy, which is obtained through the service fees in connection with its management and operation business. In this respect, under the Yangxi Agreements, the Group agreed to construct and pay the costs of constructing the "ultra-low emission" units for #1-2 facilities so that Guangdong Huaxia Yangxi Power Plant can comply with the new ultra-low emission standards and the Group can enjoy the "ultra-low emission" subsidy and electricity price subsidies. Upon the completion of the upgrade works, the newly constructed "ultra-low emission" units shall belong to

運維服務乃屬本公司的日常業務。通過訂立陽西協議及其項下交易，北京博奇將運用其於運營、維護及管理脫硫及脫硝設施及「超低排放」機組的相關專業經驗及優勢，輸出管理經驗，取得合理收入及回報。簽訂陽西協議與本集團從事運營、管理及維護脫硫及脫硝設施及「超低排放」機組的整體策略及業務重心相一致，並將提升本公司於廣東省的市場地位。加強本集團核心業務的競爭優勢符合本集團的整體利益。

根據《關於印發<全面實施燃煤電廠超低排放和節能改造工作方案>的通知》(「通知」)，中國政府將給予該等符合超低排放標準的燃煤電廠電價補貼及產能獎勵以鼓勵電廠超低排放及節能改革。

興建該等「超低排放」改造機組以收取「超低排放」補貼符合本集團的利益，該等補貼透過與其管理及營運業務有關的服務費收取。就此而言，根據陽西協議，本集團同意興建及支付興建1-2號設施「超低排放」機組的成本，以便廣東華廈陽西發電廠能遵守新超低排放標準，且本集團可享有「超低排放」補貼及電價補貼。於完成改造工程後，新建「超低排放」機組屬於北京博奇所有，且不會被抵押作為陽西設施的一部分。因此，北京博奇有權收取上述「超低排放」機組所帶來的「超低排放」補貼，該補貼按「超低排放」電價補貼乘



Beijing Boqi and will not be pledged as part of the Yangxi Facilities. Beijing Boqi is accordingly entitled to the “ultra-low emission” subsidy generated by the said “ultra-low emission” units, which is calculated based on the “ultra-low emission” electricity price subsidy multiplied by a rate which is determined with reference to the costs of constructing the “ultra-low emission” units and the costs of operating and managing such “ultra-low emission” units in respect of desulfurization and denitrification facilities.

In connection with the “ultra-low emission” upgrade units to #3-4 desulfurization and denitrification facilities, for the purpose of securing the “ultra-low emission” subsidy in the form of service fee, in respect of the said “ultra-low emission” upgrade units which have been constructed and owned by Yangxi Electric, Beijing Boqi underwent negotiations with Yangxi Electric in respect of a potential arrangement to bear the costs and expenses for the construction of such “ultra-low emission” upgrade units. However, through a number of discussions and negotiations, Beijing Boqi and Yangxi Electric could not agree on the terms and calculation of the entitlement of the “ultra-low emission” subsidy and no such arrangement would be entered into between the two parties. Accordingly, Beijing Boqi will not be required to bear the costs of the “ultra-low emission” upgrade units to #3-4 desulfurization and denitrification facilities, and as a result, will not be entitled to the “ultra-low emission” subsidy generated by such units. On the other hand, Beijing Boqi’s provision of services to Yangxi Electric’s desulfurization and denitrification facilities (including #3-4 desulfurization and denitrification facilities) under the Yangxi Agreements and the fees to be received thereunder shall continue and remain unaffected.

For details of the information with respect to the connected transactions mentioned above, please refer to the disclosure as set out in the section headed “Connected Transactions” of the Prospectus.

以參考脫硫及脫硝設施「超低排放」機組建設成本及該等「超低排放」機組運營及管理成本後釐定的比率計算。

就3-4號脫硫及脫硝設施的「超低排放」改造機組而言，出於就陽西電力已興建及擁有的上述「超低排放」改造機組以服務費的形式收取「超低排放」補貼之目的，北京博奇與陽西電力已就承擔該等「超低排放」改造機組的建設成本及開支的潛在安排進行磋商。然而，透過大量討論及磋商，北京博奇及陽西電力未能就享受「超低排放」補貼的期限及計算方法達成協議，故雙方不會訂立有關安排。因此，北京博奇將毋須承擔3-4號脫硫及脫硝設施「超低排放」改造機組的成本，因此，將不享有有關機組所產生的「超低排放」補貼。另一方面，北京博奇根據陽西協議向陽西設施的脫硫及脫硝設施（包括3-4號脫硫及脫硝設施）提供服務及據此將予收取的費用將繼續及保持不受影響。

有關上述關連交易的詳情，請參閱招股章程「關連交易」一節所載披露。



Directors' Report (Continued)

董事會報告 (續)

3. Non-exempt continuing connected transactions subject to reporting, annual review, announcement and independent shareholders' approval requirements

For the year ended 31 December 2019, the Group entered into certain connected transactions, which were disclosed in the note 40 to the consolidated financial statement. These transactions constitute continuing connected transactions under the Listing Rules and are required to be disclosed in this report in accordance with Chapter 14A of the Listing Rules. The Directors confirmed that the Group has complied with the disclosure requirements prescribed in Chapter 14A of the Listing Rules.

1. CHONGQING CHUANWEI EPC CONTRACT

Date of the contract:	14 September 2018
Date of signing:	Chongqing Chuanwei Petrochemical Engineering Company Limited of the Sinopec Group ("Chongqing Chuanwei") (contract-issuing party) and Beijing Boqi (Contractor)
Scope of work:	Engineering of ultra-low emission upgrade project of coal-fired boiler; denitrification, desulfurization and dust removal except upgrade of boiler itself; procurement and supply of relevant equipment; construction (including building, installation, removal and transportation of structures related to the project) and subsequent testing and performance evaluation

三、須遵守申報、年度審查、公告及獨立股東批准規定的非豁免的持續關連交易

截至2019年12月31日止年度，本集團訂立若干關聯方交易，乃於財務報表附註40披露。此等交易構成上市規則下的持續關連交易，根據上市規則第14A章須於本報告予以披露。董事確認，本集團已遵守上市規則第14A章的披露規定。

1. 重慶川維EPC合同

簽約日期：	2018年9月14日
訂約方：	中國石化集團重慶川維化工有限公司（「重慶川維」）（發包人）及北京博奇（承包人）
工作範圍：	燃煤鍋爐超低排放改造項目的工程；除鍋爐本體改造以外的脫硝、脫硫及除塵；相關設備的採購及供應；施工（包括建造、安裝、移除及運輸與項目相關的結構）及後續測試及性能評估



Completion date:	October 2020	完成期限：	2020年10月
Contract value:	RMB205,880,000 (tentative estimate of the total value)	合同價值：	人民幣205,880,000元(暫估總價)
Reasons for and the benefits of the transaction:	<p>Chongqing Chuanwei EPC Contract is in line with the business development strategy and operation structure adjustment of the Company, which began in late 2016 to explore markets for petrochemicals and steel industries. The Company believes that the transaction will enhance the desulfurization, denitrification and dust removal business of the Group. It is expected to expand the business opportunities between the Group and Sinopec Group and gain considerable project experience, which allows the Company to further expand the market and offer similar services to more market participants of the petrochemical industry in the near future.</p>	進行交易的理由及裨益：	<p>重慶川維EPC合同符合本公司從2016年底開始開拓石化鋼鐵領域市場的業務發展戰略和經營結構調整。本公司深信該等交易將提升本集團脫硫、脫硝和除塵業務，並期望進一步擴大本集團與中石化集團的商機並累積豐富的項目經驗，以便本公司於不久未來進一步開拓市場，向更多的石油化工行業的市場參與者提供類似的服務。</p>
Revenue:	<p>The revenue generated from Chongqing Chuanwei EPC Contract amounted to RMB6,849,000 and RMB74,017,000 for the year ended 31 December 2018 and 2019, respectively.</p>	收益：	<p>重慶川維EPC合同截至2018年及2019年12月31日止年度產生的收益分別為人民幣6,849,000元及人民幣74,017,000元。</p>



Directors' Report (Continued)

董事會報告 (續)

2. NINGBO PROCUREMENT CONTRACT

Date of signing: 14 September 2018

Parties: Sinopec Ningbo Engineering Co., Ltd. ("Sinopec Ningbo") (Purchaser) and Beijing Boqi (Seller)

Scope of work: In terms of design, installation, testing, operation, maintenance, procurement of purchased components and during the construction process, the materials provided and the technology delivered strictly comply with the requirements under the Ningbo Procurement Contract and the relevant technical agreement.

Completion date: May 2019

Contract value: RMB24,800,000

2. 寧波採購合同

簽約日期： 2018年9月14日

訂約方： 中石化寧波工程有限公司(「中石化寧波」)(買受方)及北京博奇(出賣方)

工作範圍： 所提供的物資以及所交付的技術，在設計、安裝、測試、運行、維修、外購件採購及製造過程中嚴格遵守寧波採購合同及相關技術協議的要求。

完成期限： 2019年5月

合同價值： 人民幣24,800,000元



Reasons for and the benefits of the transaction: Ningbo Procurement Contract will enhance the desulfurization, denitrification and dust removal business of the Group. The performance of the contract will have a positive impact on the Company's income and operating results, thereby laying an important foundation for the Company to expand and strengthen its environmental protection business in the petrochemical industry, as well as contributing to the continuous growth of the Group's annual performance.

進行交易的理由及裨益：寧波採購合同將提升本集團脫硫、脫硝和除塵業務，對本公司的收益、經營業績產生正面影響，能夠為本公司做大做強石化領域環保業務奠定重要基礎，更助力集團年度經營指標持續增長。

Revenue: The revenue generated from Ningbo Procurement Contract amounted to RMB1,250,000 and RMB20,129,000 for the year ended 31 December 2018 and 2019, respectively.

收益：寧波採購合同截至2018年及2019年12月31日止年度產生的收益分別為人民幣1,250,000元及人民幣20,129,000元。

Chongqing Chuanwei, is indirectly wholly owned by China Petrochemical Corporation through Sinopec Group Asset Management Co., Ltd. (Sinopec Group Asset Management Co., Ltd. and China Petroleum & Chemical Corporation are both subsidiaries of China Petrochemical Corporation, and China Petroleum & Chemical Corporation wholly owns Sinopec Overseas).

重慶川維，由中國石油化工集團公司透過中國石化集團資產經營管理有限公司間接全資擁有（中國石化集團資產經營管理有限公司與中國石油化工股份有限公司均為中國石油化工集團公司的附屬公司，而中國石油化工股份有限公司全資擁有中石化海投）。

Sinopec Ningbo, is controlled by China Petrochemical Corporation through Sinopec Engineering (Group) Co., Ltd and Sinopec Group Asset Management Co., Ltd. (Sinopec Engineering (Group) Co., Ltd, Sinopec Group Asset Management Co., Ltd and China Petroleum & Chemical Corporation are all subsidiaries of China Petrochemical Corporation, and China Petroleum & Chemical Corporation wholly owns Sinopec Overseas).

中石化寧波，由中國石油化工集團公司透過中石化煉化工程（集團）股份有限公司及中國石化集團資產經營管理有限公司控制（中石化煉化工程（集團）股份有限公司、中國石化集團資產經營管理有限公司與中國石油化工股份有限公司均為中國石油化工集團公司的附屬公司，而中國石油化工股份有限公司全資擁有中石化海投）。



Since Sinopec Overseas is one of the substantial shareholders of the Company, and both companies are therefore a connected person of the Company under Rule 14A.07(4) of the Listing Rules. Given the above continuing connected transactions were all made with the group companies of China Petroleum & Chemical Corporation, the parent company of Sinopec Overseas, pursuant to which income shall be received by the Group in relation to the EPC and procurement services provided, such transactions shall be aggregated in accordance with Rule 14A.81 of the Listing Rules. The above transaction is entered into on normal commercial terms. Prior to the Listing, the Company had applied to the Stock Exchange and the Stock Exchange had granted the Company, a waiver from strict compliance with the rules regarding the announcement and independent shareholders' approval requirements under Chapter 14A of the Listing Rules, on the condition that the aggregate amount of non- exempt continuing connected transactions with Sinopec for the year 2018 would not exceed the annual cap set out in the Prospectus.

According to Rule 14A.81 of the Listing Rules, if a series of connected transactions are entered into or completed within 12 months or are otherwise interrelated, then such connected transactions shall be aggregated and treated as if they were one transaction. As both the Chongqing Chuanwei EPC Contract and Ningbo Procurement Contract are signed with the group company of Sinopec Overseas' parent company, China Petroleum & Chemical Corporation and of the same transaction nature, both the Chongqing Chuanwei EPC Contract and Ningbo Procurement Contract shall be aggregated in accordance with Rule 14A.81 of the Listing Rules. As certain applicable percentage ratios of transaction amounts of Chongqing Chuanwei EPC Contract and Ningbo Procurement Contract exceed 5% but are less than 25% after aggregation, therefore, Chongqing Chuanwei

鑒於中石化海投為我們的主要股東之一，因此，根據上市規則第14A.07(4)條，彼等各自均為本公司的關連人士。鑒於上述持續關連交易乃均與中石化海投的母公司中國石油化工股份有限公司的集團公司進行，據此，收入應由本集團就所提供EPC及採購服務收取，而有關交易須根據上市規則第14A.81條合併計算。上述交易乃按一般商業條款訂立。於上市前，本公司已向聯交所申請且聯交所已批准本公司獲豁免嚴格遵守上市規則第14章項下有關公告及獨立股東批准的規定的條，條件為中石化於2018年的持續關連交易的總額不得超過招股章程所載的年度上限。

根據上市規則第14A.81條的規定，倘一連串關連交易均於十二個月期間內訂立或完成，又或相關交易彼此有關連，則該等關連交易將合併計算，並視作一項交易處理。由於重慶川維EPC合同以及寧波採購合同均為與中石化海投的母公司中國石油化工股份有限公司的集團公司簽訂，且交易性質一致，根據上市規則第14A.81條的規定，重慶川維EPC合同以及寧波採購合同應合併計算。由於重慶川維EPC合同以及寧波採購合同合算後，交易金額之若干適用百分比率超逾5%，但低於25%，因此，重慶川維EPC合



EPC Contract, Ningbo Procurement Contract and the transactions thereunder must comply with the reporting, announcement, circular, Independent Shareholders' approval and annual review requirements under Chapter 14A of Listing Rules.

The actual transaction amounts for the non-exempted continuing connected transactions are set out as follows:

同、寧波採購合同及該等合同下的交易必須遵守上市規則第14A章項下之申報、公告、通函、獨立股東批准及年度審查之規定。

非豁免持續關連交易的實際交易金額載列如下：

	For the period from 21 November 2018 to 31 December 2018 於2018年11月21日至 2018年12月31日期間	For the year ending 31 December 2019 截至2019年12月31日 止年度
	RMB 人民幣	RMB 人民幣
Chongqing Chuanwei EPC Contract 重慶川維EPC合同	6,849,000	74,017,000
Ningbo Procurement Contract 寧波採購合同	1,250,000	20,129,000
Total 總計	8,099,000	94,146,000

The annual cap of such transactions for the year ended December 31, 2019 is RMB121,006,185, while the actual transaction amount in aggregate for the year ended December 31, 2019 is RMB94,146,000.

For details of the transaction, please refer to the announcement of the Company dated 14 September 2018 and the circular of the Company dated 31 October 2018.

該等交易於截至2019年12月31日止年度的年度上限為人民幣121,006,185元，而截至2019年12月31日止年度的實際交易總額為人民幣94,146,000。

有關交易詳情，請參閱本公司日期為2018年9月14日之公告及本公司日期為2018年10月31日之通函。



CONFIRMATION BY INDEPENDENT NON-EXECUTIVE DIRECTORS

獨立非執行董事確認

The independent non-executive Directors have reviewed each of the above mentioned continuing connected transactions and confirmed that:

獨立非執行董事已審閱上述各項持續關連交易，並確認：

- (1) the transactions stated in the section headed "Exempt Continuing Connected Transactions" in this annual report have been generated during the Group's ordinary and usual course of business on normal commercial terms (or more favorable than normal commercial terms available for the Group), and that the terms of such transactions are fair and reasonable, and are in the interests of the Company and its shareholders as a whole; and
- (2) the transactions and relevant annual caps stated in this section headed "Non-exempt Continuing Connected Transactions" in this annual report have been generated during the Group's ordinary and usual course of business on normal commercial terms (or more favorable than normal commercial terms available for the Group), and that the terms of such transactions are fair and reasonable, and are in the interests of the Company and its shareholders as a whole.

- (1) 本年報「獲豁免持續關連交易」一節所載之交易乃於本集團之日常及一般業務過程中按一般商業條款（或優於本集團可取得的一般商業條款）產生，而該等交易條款屬公平合理，並符合本公司及其股東的整體利益；及
- (2) 本年報「不獲豁免持續關連交易」一節所載之交易及相關年度上限乃於本集團之日常及一般業務過程中按一般商業條款（或優於本集團可取得的一般商業條款）產生，而該等交易條款屬公平合理，並符合本公司及其股東的整體利益。

During the year ended 31 December 2019, the Group has complied with the disclosure requirements prescribed in Chapter 14A of the Listing Rules with respect to the connected transactions and continuing connected transactions entered into by the Group during the year under review.

截至2019年12月31日止年度，本集團於回顧年度訂立的關連交易及持續關連交易，本公司已遵守上市規則第14A章所述的披露規定。



AUDITOR'S LETTER

Pursuant to Rule 14A.56 of the Listing Rules, the Board engaged the auditors of the Company, Deloitte, to report on the Group's continuing connected transactions in accordance with the Hong Kong Standard on Assurance Engagements 3000 "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" and with reference to Practice Note 740 "Auditor's Letter on Continuing Connected Transactions under Listing Rules" issued by the Hong Kong Institute of Certified Public Accountants. Based on its work, Deloitte has provided the Board with a letter confirming that, with respect to the aforesaid continuing connected transactions:

- (1) nothing has come to the auditor's attention that causes the auditor to believe that the disclosed continuing connected transactions have not been approved by the Company's board of directors;
- (2) for transactions involving the provision of goods or services by the Group, nothing has come to the auditor's attention that causes the auditor to believe that the transactions were not, in all material respects, in accordance with the pricing policies of the Company;
- (3) nothing has come to the auditor's attention that causes the auditor to believe that the transactions were not entered into, in all material respects, in accordance with the relevant agreements governing such transactions; and
- (4) with respect to the aggregate amount of each of the continuing connected transactions set out above, nothing has come to our attention that causes us to believe that the disclosed continuing connected transactions have exceeded the annual cap as set by the Company.

核數師函件

根據上市規則第14A.56條，董事會已委聘本公司核數師德勤按照香港會計師公會所頒佈的香港鑒證業務準則第3000號「歷史財務資料審計或審閱以外之鑒證工作」及參考實務說明第740號「香港上市規則規定的持續關連交易的核數師函件」申報本集團的持續關連交易。根據其工作，德勤向董事會出具函件確認，就上述持續關連交易而言：

- (1) 核數師並無注意到任何事項令他們相信該等已披露的持續關連交易未獲本集團董事會批准；
- (2) 就本集團提供貨品或服務所涉及的交易，核數師並無注意到任何事項令他們相信該等交易在所有重大方面未有按照本集團的定價政策進行；
- (3) 核數師並無注意到任何事項令他們相信該等交易在所有重大方面未有按照規管該等交易的相關協議進行；及
- (4) 就上文所載每項持續關連交易的總金額而言，核數師並無注意到任何事項令他們相信該等已披露的持續關連交易的金額超出本公司就上述每項已披露的持續關連交易設定的年度上限。



RELATED PARTY TRANSACTIONS

Please refer to note 39 to the consolidated financial statements in this annual report for details of the significant related party transactions pursuant to IFRSs. For the connected transactions and continuing connected transactions pursuant to the requirements of the Listing Rules, please refer to the disclosure as set out in the above section headed “Connected Transactions” in this report of Directors. Except for those disclosed in the section headed “Connected Transactions” in this report of Directors, the other related party transactions as disclosed in note 39 are not considered as connected transactions, or are exempt from reporting, announcement and independent shareholders' approval requirements under the Listing Rules.

MAJOR SUBSEQUENT EVENTS

On 15 January 2020, Jiangxi Jinggangshan Boqi Environmental Technology Co., Ltd.* (江西井岡山博奇環保科技有限公司) (“**Jinggangshan Boqi**”) as lessee and CITIC Financial Leasing Co. Ltd.* (中信金融租賃有限公司) (“**CITIC Leasing**”) as lessor entered into a finance lease arrangement, pursuant to which (i) CITIC Leasing agreed to purchase and Jinggangshan Boqi agreed to dispose certain desulfurization and denitrification equipment at the consideration of RMB90 million; and (ii) CITIC Leasing agreed to lease the Jinggangshan Equipment to Jinggangshan Boqi for a term of five years, at an estimated total amount of approximately RMB108 million, being the sum of an one-off handling fee of approximately RMB4 million, plus an estimated lease payment of RMB104 million.

關連方交易

有關國際財務報告準則項下重大關連方交易的詳情，請參閱本年報綜合財務報表附註39。有關上市規則規定項下的關連交易及持續關連交易的詳情，請參閱本董事會報告「關連交易」一節所載披露。除本董事會報告「關連交易」一節所披露者外，附註39所披露的其他關連方交易並不被視作關連交易，或豁免遵守上市規則之申報、公告及獨立股東批准規定。

主要期後事項

於2020年1月15日，江西井岡山博奇環保科技有限公司（「**井岡山博奇**」，作為承租人）與中信金融租賃有限公司（「**中信租賃**」，作為出租人）訂立融資租賃協議，據此(i)中信租賃同意購買而井岡山博奇同意出售若干脫硫及脫硝設備，代價為人民幣90百萬元；及(ii)中信租賃同意向井岡山博奇出租井岡山設備，租期為五年，估計總額約為人民幣108百萬元，包括一次性手續費用人民幣4百萬元另加估計租金約人民幣104百萬元。



On the even date, Changjizhou Boqi Environmental Technology Co., Ltd.* (昌吉州博奇環保科技有限公司) (“**Changjizhou Boqi**”) as lessee and CITIC Leasing (as lessor) entered into a finance lease arrangement, pursuant to which (i) CITIC Leasing agreed to purchase and Changjizhou Boqi agreed to dispose certain desulfurization and denitrification equipment at the consideration of RMB260 million; and (ii) CITIC Leasing agreed to lease the Changjizhou Equipment to Changjizhou Boqi for a term of five years, at an estimated total amount of approximately RMB311 million, being the sum of an one-off handling fee of RMB12 million, plus an estimated lease payment of approximately RMB299 million.

Save as disclosed in this annual report, there are no major subsequent events to 31 December 2019 which would materially affect the Group's operating and financial performance as of the date of this annual report.

AUDIT COMMITTEE AND REVIEW OF FINANCIAL STATEMENTS

The Company established the Audit Committee with written terms of reference in compliance with the CG Code. As at the date of this annual report, the Audit Committee comprises three members, namely Dr. Xie Guozhong, Mr. Liu Genyu and Mr. Zheng Tony Tuo. Dr. Xie Guozhong is the chairman of the Audit Committee.

The Audit Committee has reviewed the audited financial statements of the Group for the 2019 Financial Year. The Audit Committee has also discussed matters with respect to the accounting policies and practices adopted by the Company and the internal control with senior management members and the external auditor of the Company, Deloitte. Based on this review and discussions with the management, the Audit Committee was satisfied that the Group's audited consolidated financial statements were prepared in accordance with accounting standards and fairly present the Group's financial position and results for the 2019 Financial Year.

* for identification purposes only

於同日，昌吉州博奇環保科技有限公司（「**昌吉州博奇**」，作為承租人）與中信租賃（作為出租人）訂立融資租賃協議，據此(i)中信租賃同意購買而昌吉州博奇同意出售若干脫硫及脫硝設備，代價為人民幣260百萬元；及(ii)中信租賃同意向昌吉州博奇出租昌吉州設備，租期為五年，估計總額約為人民幣311百萬元，包括一次性手續費用人民幣12百萬元另加估計租金約人民幣299百萬元。

除本年報所披露者外，本公司於2019年12月31日後概無任何主要期後事項對本集團於本年報日期的經營及財務表現造成重大影響。

審核委員會及審閱財務報表

本公司已成立審核委員會，並已遵照企業管治守則制定其書面職權範圍。於本年報日期，審核委員會由三名成員組成，即謝國忠博士、劉根鈺先生及鄭拓先生。謝國忠博士為審核委員會主席。

審核委員會已審閱本集團於2019財政年度的經審核財務報表。審核委員會亦已就本公司所採納會計政策及實務以及內部控制有關的事宜與高級管理層成員及本公司外部核數師德勤展開討論。基於是次審閱及與管理層展開的討論，審核委員會信納，本集團的經審核綜合財務報表乃根據會計準則編製及公允地反映本集團於2019財政年度的財務狀況及業績。

* 僅供識別



COMPLIANCE WITH THE CORPORATE GOVERNANCE CODE

The Company is committed to maintaining high standards of corporate governance to safeguard the interests of shareholders and to enhance corporate value and accountability. The Board has adopted the principles and the code provisions of the Corporate Governance Code contained in Appendix 14 to Listing Rules to ensure that the Company's business activities and decision making processes are regulated in a proper and prudent manner.

Information on the corporate governance practices adopted by the Company is set out in the Corporate Governance Report on page 70 of this annual report. During the Period, the Company has fully complied with the CG Code.

SUFFICIENCY OF PUBLIC FLOAT

Based on information publicly available to the Company and to the knowledge of the Directors, at least 25% of the Company's total issued share capital, the prescribed minimum percentage of public float approved by the Stock Exchange and permitted under the Listing Rules, are held by the public at all times as of the date of this report.

AUDITOR

The Shares were listed on the Stock Exchange on 16 March 2018, and there has been no change in auditors since the Listing Date. The consolidated financial statements for the year ended 31 December 2019 have been audited by Deloitte Touche Tohmatsu, Certified Public Accountants, who are proposed for reappointment at the forthcoming AGM.

MATERIAL LEGAL PROCEEDINGS

The Group was not involved in any material legal proceeding during the year ended 31 December 2019.

COMPLIANCE WITH LAWS AND REGULATIONS

For the year ended 31 December 2019, the Company is in compliance with the relevant laws and regulations that have a significant impact on the Company.

遵守企業管治守則

本公司致力維持高水平的企業管治，以保障股東利益及提升企業價值及問責性。董事會已採納上市規則附錄十四所載的企業管治守則的原則及守則條文，以確保本公司的業務活動及決策過程受到恰當及審慎規管。

有關本公司採納企業管治常規之資料載於本年報第70頁的企業管治報告內。於本期間，本公司已全面遵守企業管治守則。

足夠的公眾持股量

根據本公司公開可得的資料及就董事所知，截至本報告日期，公眾一直持有本公司全部已發行股本的至少25%（聯交所批准及上市規則准許的規定最低公眾持股量）。

核數師

股份於2018年3月16日方於聯交所上市，自上市日期以來核數師並無發生變動。截至2019年12月31日止年度的綜合財務報表由建議於應屆股東週年大會上續聘的執業會計師德勤•關黃陳方會計師行審閱。

重大法律訴訟

本集團於截至2019年12月31日止年度並無涉及任何重大法律訴訟。

遵守法律及法規

截至2019年12月31日止年度，本公司遵守對本公司有重大影響的相關法律及法規。



ENVIRONMENTAL POLICIES AND PERFORMANCE

As an environmental protection service provider, the Group strictly abides by the laws and regulations relating to its business, including provision of services of environment protection and energy conservation, inspection of the pollutants and flue gas generated by coal-fired power plants. The Group is committed to protecting the environment and giving back to community and achieving sustainable growth. The achievements of the Group are based on constructing the mutual beneficial relations with our clients and employees and maintaining coexistence with ecological and social environment. The Group will continue to commit to its social responsibilities and exert its advantages as an environmental protection enterprise and make consistent efforts to forage an environment with blue sky and white clouds.

Details of the environment, social responsibilities and governance of the Company are set out in the ESG Report on page 152 to page 216 of this annual report.

ANNUAL GENERAL MEETING

The AGM will to be held on Friday, 12 June 2020. A notice convening the AGM will be published and dispatched to the shareholders of the Company in the manner required by the Listing Rules in due course.

CLOSURE OF REGISTER OF MEMBERS

In order to determine the entitlement to attend and vote at the AGM, the register of members will be closed from Tuesday, 9 June 2020 to Friday, 12 June 2020, both dates inclusive, during which period no transfer of share will be effected. In order to be eligible to attend and vote at the AGM, all transfer documents accompanied by the relevant share certificates must be lodged with the Company's share registrar and transfer office in Hong Kong, Tricor Investor Services Limited, at Level 54, Hopewell Centre, 183 Queen's Road East, Hong Kong for registration not later than 4:30 pm on Monday, 8 June 2020. The record date for such purpose is Friday, 12 June 2020.

環保政策及績效

作為環保服務提供商，本集團嚴格遵守與其業務有關的法律法規，包括有關提供環保及節能服務、監測燃煤發電廠產生的污染物及煙氣的法律法規。本集團致力於保護環境、回饋社會及實現可持續發展。本集團取得的成就離不開與客戶及員工建立互利關係，以及保持生態環境及社會環境的和諧共存。本集團將繼續履行其社會責任，發揮環保企業的優勢，為打造藍天白雲的美好環境不懈努力。

有關本公司的環境、社會責任及管治的詳情載列於本年報第152至216頁的環境、社會及管治報告內。

股東週年大會

股東週年大會將於2020年6月12日(星期五)舉行。召開股東週年大會的通告將按上市規則的規定適時刊發及寄送予本公司股東。

暫停辦理股份過戶登記

為釐定出席股東週年大會及於會上投票的資格，將於2020年6月9日(星期二)至2020年6月12日(星期五)(包括首尾兩日)期間內暫停辦理股份過戶登記手續，期間將不會辦理任何股份過戶登記。為符合資格出席股東週年大會及於會上投票，所有股份過戶文件連同有關股票必須於2020年6月8日(星期一)下午四時三十分前，送交本公司的香港股份過戶登記分處卓佳證券登記有限公司(地址為香港皇后大道東183號合和中心54樓)進行登記。有關上述事項的記錄日期為2020年6月12日(星期五)。



Directors' Report (Continued)

董事會報告 (續)

In order to determine the entitlement to the proposed final dividend for the year ended 31 December 2019, the transfer books and register of members of the Company will be closed from Thursday, 18 June 2020 to Monday, 22 June 2020, both days inclusive. During the above period, no transfer of shares will be registered. In order to qualify for the entitlement to the proposed final dividend, all transfer documents accompanied by the relevant share certificates must be lodged with the Company's branch share registrar and transfer office in Hong Kong, Tricor Investor Services Limited, at Level 54, Hopewell Centre, 183 Queen's Road East, Hong Kong before 4:30 p.m. on Wednesday, 17 June 2020.

為釐定收取截至2019年12月31日止年度建議末期股息的資格，本公司股東名冊的過戶及登記將於2020年6月18日(星期四)至2020年6月22日(星期一)期間暫停辦理(包括首尾兩日)。於上述期間，不會辦理股份過戶手續。為符合資格收取建議末期股息，所有過戶文件連同相關股票必須於2020年6月17日(星期三)下午四時三十分前，送交本公司的香港股份過戶登記分處卓佳證券登記有限公司(地址為香港皇后大道東183號合和中心54樓)進行登記。

On behalf of the Board

代表董事會

Cheng Liqun Richard

Chairman

Hong Kong, 27 April 2020

董事長

程里全

香港，2020年4月27日



PROFILE OF HUMAN RESOURCES

As of 31 December 2019, the Group had 1,950 employees in total, most of whom were based in the PRC. The Group has established independent labor union branches. Currently, the Group has entered into employment agreements with all employees, which specify the position, duties, remuneration, employment benefits, training, confidentiality obligations relating to trade secrets, grounds for termination and other aspects pursuant to PRC Labor Law and other relevant regulations.

The table below sets forth the number of employees as of 31 December 2019 categorised by their functions:

Function	職能	Number of employees 僱員人數	Percentage of the total number of employees 人數百分比
Concession operation management personnel	特許經營管理人員	89	4.56%
Engineering and technical personnel	工程技術人員	147	7.54%
Sales personnel	銷售人員	19	0.97%
Research and development personnel	研發人員	62	3.18%
Administrative and management personnel	行政管理人員	31	1.59%
Manufacture personnel	生產人員	1,602	82.15%
Total	總計	1,950	100%

EMPLOYEE INCENTIVE

Guided by the business strategies and annual business targets and focused on economic benefits, the Company followed the market trends and developed its technology to comprehensively enhance its overall abilities in plan execution, project management and teamwork. During the Reporting Period, an evaluation system based on “contribution value” as performance measurement standard and “performance result” as guidance was established. This system places an emphasis on evaluating the operational capability by working efficiency to lead employees to excellence.

人力資源情況

於2019年12月31日，我們共聘用1,950名僱員，其中絕大多數僱員常駐中國。本集團設有獨立工會分支。目前，本集團已與全部員工訂立了勞動合同，按照中國勞動法和其他相關法規的規定，明確約定了僱員的職位、職責、薪酬、員工福利、培訓、有關商業秘密的保密責任及終止理由等事項。

下表列示於2019年12月31日按職能劃分的員工人數：

員工激勵

本公司以經營戰略和年度經營目標為指導，以經濟效益為中心，以市場為龍頭、技術研發為支撐，全面提高公司整體計劃執行能力、項目管理能力、團隊協作能力。於報告期內，集團建立了以「貢獻值」為業績衡量標準，「績效結果」為導向的考核體系，注重以工作效率評判崗位工作能力，引導員工創效創優。



Human Resources (Continued)

人力資源 (續)

Furthermore, the Group implemented a responsibility-based system for business management objectives, and all employees participate in performance appraisal. By setting key performance indicators and index evaluation criteria, the Group scientifically and objectively evaluates the performance of tasks of each position, assisting employees to improve their ability and performance so that the Group's annual business objectives can be achieved. In addition, the Group implemented a commensurate reward and penalty system and a promotion system based on the quantitative evaluation results, so as to truly realize employee incentives.

THE EMPLOYEES REMUNERATION POLICY

The remuneration package of the employees includes salaries, bonuses and allowances. Our employees also receive supplementary medical provision, transportation allowances, meal allowances and other benefits. During the Reporting Period, the Company carried out employee performance appraisals and established diversified and dynamic appraisal mechanisms, which are result-oriented. By setting performance objectives and quantifying the work load, the Company has improved its performance appraisal system which integrates rewards and assessments. At the same time, a mechanism for matching job performance with the remunerations of relevant persons in charge was established for management personnel and project managers.

During the Reporting Period, pursuant to applicable PRC laws and regulations, the Group has contributed to social insurance funds (including pension plans, basic medical insurance, employment injury insurance, unemployment insurance and maternity insurance) and housing provident funds for all employees.

此外，集團實行經營管理目標責任制，全員參與績效評估。通過設定崗位關鍵績效指標及指標評價標準，科學、客觀地評價各崗位任務完成情況，幫助員工提升自身工作水平和工作業績，以保證集團年度經營目標的實現。此外，集團根據量化評估結果匹配相應獎懲制度、晉升制度，真正實現員工激勵。

員工薪酬政策

我們員工的薪酬組合包括薪金、獎金、津貼。我們的員工亦享有補充醫療、交通補貼、午餐補貼及其他福利費。於報告期內我們推行員工業績考核，建立了不同形式、靈活的考評機制，以業績結果為導向，建立績效目標，量化工作內容，完善激勵與考核相結合的績效體系；同時在管理層及項目經理崗位建立了崗位績效與相關負責人的工資薪酬相匹配的機制。

於報告期內，我們已按中國法律法規要求為員工繳納社保基金（包括養老保險、基本醫療保險、工傷保險、失業保險及生育保險）及住房公積金。



TRAINING FOR EMPLOYEES

In order to attract and retain high quality employees and further improve their knowledge, skill levels and professionalism, the Group places a strong emphasis on the training of its employees. During the Reporting Period, the Group provided professional education, training and other opportunities for management personnel and employees to improve their professional skills and knowledge. We have developed and carried out exclusive training programs in design institutes, elite training in sales and marketing centers and the induction training for fresh graduates.

In 2019, the Group conducted 83 training programs in areas of operation management, professional techniques and production skills. During the Reporting Period, the training rate of our employees achieved 95%.

PROTECTION OF THE EMPLOYEES' RIGHTS

During the Reporting Period, the Group complied with the Labour Law of PRC and the Labour Contract Law of PRC in all material respects, including making contributions to the Social Insurance Fund and Housing Provident Fund for its employees, among which the social insurance includes basic pension insurance, basic medical insurance, employment injury insurance, unemployment insurance and maternity insurance.

員工培訓

為吸納及挽留高素質的員工及進一步提高員工的知識、技能水平及職業素養，我們十分注重對員工的培訓。於報告期內，我們向管理人員及員工提供專業性教育、培訓及其他機會，提高員工的專業技能及知識，自主研發並開展了設計院專項培訓、市場營銷中心銷售精英培訓以及應屆畢業生的培養雛鷹計劃。

於2019年，本集團進行83個經營管理類、專業技術類及生產技能類的培訓計畫。於報告期內員工培訓率達到95%。

員工權利保障

在報告期內，本集團於所有重大方面均遵守中國勞動法和中國勞動合同法，包括為員工繳納了社會保險及住房公積金，其中社會保險包括基本養老保險、基本醫療保險、工傷保險、失業保險及生育保險。



ESG Report

環境、社會及管治報告

EXPLANATION OF THE REPORT

The Group believes that a healthy environmental, social and governance (ESG) performance is decisive for the Company's sustainable development, our long-term sound foundation and creating value for our shareholders in the long run. While enhancing our steady and strong financial performance, the Group pays close attention to the improvement of the management level and performance of ESG in order to promote a sustainable development.

Scope of report

The data and facts involved in this report covered China Boqi Environmental (Holding) Co., Ltd. and its subsidiaries. For ease of expression, they are referred to as the "Group" and "we". The Group manages to select the Group's relevant material ESG issues and include them in this report through communications with stakeholders, material issues identification and assessment. The time period covered in this report was from 1 January 2019 to 31 December 31 2019. Taking into account the continuity and comparability of information disclosed, certain content may be beyond the aforesaid period.

Principles of reporting

The Board is responsible for the Company's environmental, social and governance strategies and reporting. This report has been prepared in accordance with the Environmental, Social and Governance Reporting Guide (the "ESG Guide") in Appendix 27 to the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (the "Listing Rules"). The preparation of this report aligns with the principles of materiality, quantification, balance and consistency.

Materiality: The materiality of the Group's ESG issues is determined by the Board. The process of stakeholder communication and identification of material issues and the materiality matrix are all disclosed in this report.

報告說明

本集團相信，健康的環境、社會及管治(ESG)表現對公司未來可持續發展、基業長青和為股東創造長遠價值起着決定性的影響。本集團在提升穩健有力的財務表現的同時，密切關注提升ESG管理水平和績效，推進可持續發展。

匯報範圍

本報告所涉及的數據和事實覆蓋中國博奇環保(控股)有限公司及其附屬公司。為便於表達，在報告中簡稱「本集團」、「我們」。本集團通過利益相關方溝通、重要性識別與評估，篩選出與本集團相關且重大的ESG議題並納入本報告中。本報告時間範圍為2019年1月1日至2019年12月31日，考慮到披露信息的連續性和可比性，部分信息內容可能會超出上述範圍。

匯報原則

董事會負責公司的環境、社會及管治策略及匯報。本報告遵循《香港聯合交易所有限公司證券上市規則》(《上市規則》)附錄二十七《環境、社會及管治報告指引》(《ESG指引》)編寫。報告編製遵循重要性、量化、平衡性、一致性原則。

重要性：本集團ESG事宜重要性由董事會釐定，利益相關方溝通及實質性議題識別的過程及重要性議題條件均在本報告中進行披露。



Quantitative: Statistical standards, methods, assumptions and/or calculation tools for quantitative key performance indicators herein and source of conversion factors are all explained in the definitions of the report.

量化：本報告中定量關鍵績效指標的統計標準、方法、假設及／或計算工具，以及轉換因素的來源，均在報告釋義中進行說明。

Balance: This report shall provide an unbiased picture of the environmental, social, and governance performance of the Group during the reporting period. It should avoid selections, omissions or presentation formats that may inappropriately influence the decision or judgment by the report readers.

平衡性：本報告不偏不倚地呈報本集團報告期內的表現，避免可能會不恰當地影響報告讀者決策或判斷的選擇、遺漏或呈報格式。

Consistency: The statistical methodologies and calibers applied to the data disclosed in this report shall be consistent with the previous year unless otherwise specified.

一致性：本報告披露數據所使用的統計方法及水準，如無特殊說明，均與往年保持一致。

1. ESG MANAGEMENT

1. ESG管理

1.1 ESG management system

1.1 ESG管理體系

The Board attaches great importance to the Company's ESG-related work. As the highest decision-making body on the Group's ESG issues, The board has overall responsibility for the Group's ESG work. The duties of the Board include assessing and determining the related ESG risks of the Company, ensuring the Company has in place an effective ESG risk management and internal control system, regularly reviewing the Company's ESG performance and considering and approving the disclosure information in the Company's ESG report. This report has also been reviewed by the Board before its publication.

董事會高度重視公司的ESG相關工作。作為本集團ESG最高決策機構，董事會對本集團ESG工作承擔最終責任。董事會的職責包括評估及釐定公司有關的ESG風險，確保公司設立有效的ESG風險管理和內部監控系統，定期檢討公司的ESG表現，並審批公司ESG報告內的披露資料。本報告發佈前亦已經過董事會審閱。



ESG Report (Continued)

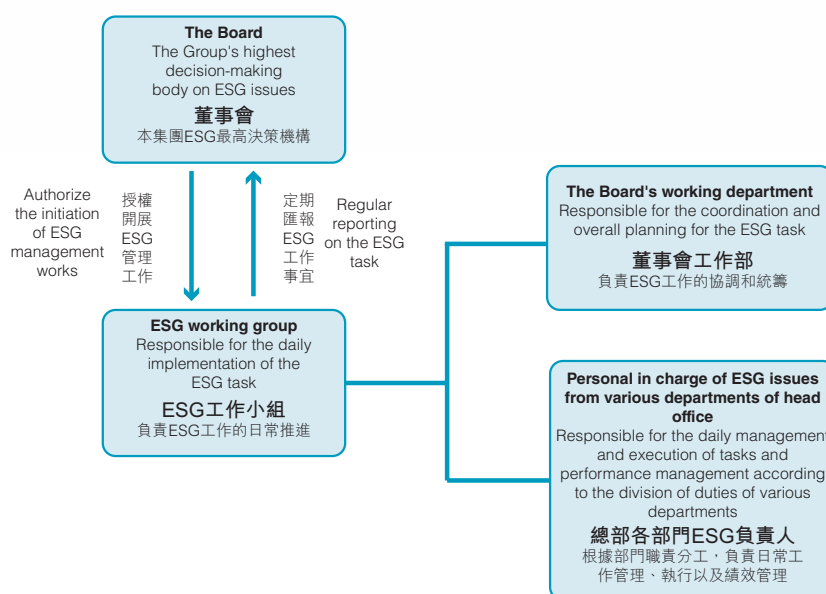
環境、社會及管治報告 (續)

Under the authority of the Board, the Group has established an ESG working group, which is responsible for the daily implementation of the ESG tasks and the regular reporting of related matters of the ESG tasks to the Board. The Board's working department leads the ESG task team and is responsible for the coordination and overall planning for the ESG tasks. The members of the ESG working group comprised of personnel in charge of ESG related matters from various departments, who are responsible for the daily management and execution of ESG tasks and ESG performance management.

在董事會授權下，本集團成立了ESG工作小組，負責ESG工作的日常推行，並定期向董事會匯報與ESG工作相關的事宜。董事會工作部為ESG工作小組的牽頭部門，負責ESG工作的協調和統籌。工作小組成員包括各部門ESG相關事宜負責人，負責ESG工作的日常管理、執行以及ESG績效管理。

1.2 Stakeholder communication

1.2 利益相關方溝通



本集團ESG管理組織體系

The Group's ESG Management Organization System



Case study: The directors of China Boqi Environmental (Holding) Co., Ltd. participate in ESG training and seminars

案例：博奇環保董事參加ESG培訓與研討

The directors of the Group actively follow up on ESG governance issues, and discuss the ESG policies and developments issued by the Hong Kong Stock Exchange in a timely manner. In December 2019, the Group hired a third-party professional consulting agency to conduct ESG training for the Board on issues including the Consultation Conclusions on Review of the Environmental, Social and Governance Reporting Guide and Related Listing Rules issued by the Stock Exchange in December 2019, the topics of concern on ESG by capital market and outstanding ESG corporate practices. It helps the Board to participate in the ESG management in a practical manner and empowers the sustainable development of corporation.

本集團董事積極跟進ESG管治事宜，適時研討香港聯合交易所發佈的ESG政策與動態。2019年12月，本集團聘請第三方專業諮詢機構，就2019年12月聯交所發佈的檢討《環境、社會及管治報告指引》及相關《上市規則》條文的諮詢總結、資本市場對ESG關注、ESG優秀企業實踐等議題進行董事會ESG培訓。此培訓助推董事會切實參與ESG管理，賦能企業可持續發展。

The Group has maintained constant communication with stakeholders. Diversified communication channels have been established for the purposes of listening to stakeholders' expectations and demands and providing timely response to stakeholders' opinions. We have prepared and formulated a stakeholder communication chart from the perspective of sustainable development to provide a basis for the identification of material issues of the Group.

本集團持續保持與利益相關方的溝通，建設多元化溝通渠道，持續聆聽利益相關方期望與要求，並針對利益相關方的意見及時做出響應。我們從可持續發展角度出發，整理並制訂利益相關方溝通情況表，為本集團重要性議題識別工作提供基礎。

1.3 Assessment on material issues

1.3 重要議題評估

Stakeholders 利益相關方	Communication channels 溝通渠道	Topics of concern 關注議題
Shareholders/investors 股東／投資者	<ul style="list-style-type: none"> General meetings 股東大會 Investor hotline 投資者熱線 Roadshow 路演 Regular report and announcement 定期報告與公告 	<ul style="list-style-type: none"> Continuously creating return on value 持續創造價值回報 Corporate governance and risk management 企業管治與風險管理 The exercise of the right to information and the right to participate in decision-making 行使知情權和參與決策權



ESG Report (Continued)

環境、社會及管治報告 (續)

Stakeholders 利益相關方	Communication channels 溝通渠道	Topics of concern 關注議題
Government/regulatory authorities 政府／監管機構	<ul style="list-style-type: none"> Daily communication 日常溝通 Announcement of information 信息公告 Regulation and supervision 監管監察 	<ul style="list-style-type: none"> Compliant operation 合規運營 Payment for tax pursuant to laws 依法納稅
Business partners 合作夥伴	<ul style="list-style-type: none"> Industry association 行業協會 Business exchange and cooperation 業務交流合作 	<ul style="list-style-type: none"> The promotion of technology upgrades on environmental protection 推進環保技術提升 Mutual development 共同發展
Customers/owners 客戶／業主	<ul style="list-style-type: none"> Communication during daily service provision 日常服務溝通 Customer visits 客戶走訪 Satisfaction survey 滿意度調查 Regular communication meetings 定期交流會議 	<ul style="list-style-type: none"> Safe and stable production 安全穩定生產 Environmental compliance 環保達標 Continuous technology and product innovation 持續的技術工藝和產品創新 The guarantee of project quality 保障工程質量 Provision of satisfactory service 提供滿意服務



Stakeholders 利益相關方	Communication channels 溝通渠道	Topics of concern 關注議題
Suppliers/contractors 供應商／承包商	<ul style="list-style-type: none"> Supplier meeting 供應商會議 Revisit and interview 回訪、約談 Public tender 公開招標 Project cooperation 項目合作 	<ul style="list-style-type: none"> The guarantee of performance 保障履約 Transparent procurement 透明採購 Win-win cooperation 合作共贏 The honoring of commitment 信守承諾
Employees 員工	<ul style="list-style-type: none"> Meeting of democratic life 民主生活會 Staff training 員工培訓 Performance appraisal interview 績效面談 Team building activities 團建活動 Questionnaire 問卷調查 	<ul style="list-style-type: none"> Equal and diversified employment 平等、多元化僱傭 Salary and benefits 薪酬與福利 Career development and training 職業發展與培訓 Safe and healthy working environment 安全健康的工作環境 Prohibition of child labor and forced labor 防止童工及強制勞動
Community 社區	<ul style="list-style-type: none"> Caring for the underprivileged 關愛弱勢社群 Carrying out environmental protection activities 開展環保活動 	<ul style="list-style-type: none"> Public welfare in the community 社區公益 Environmental protection 環境保護

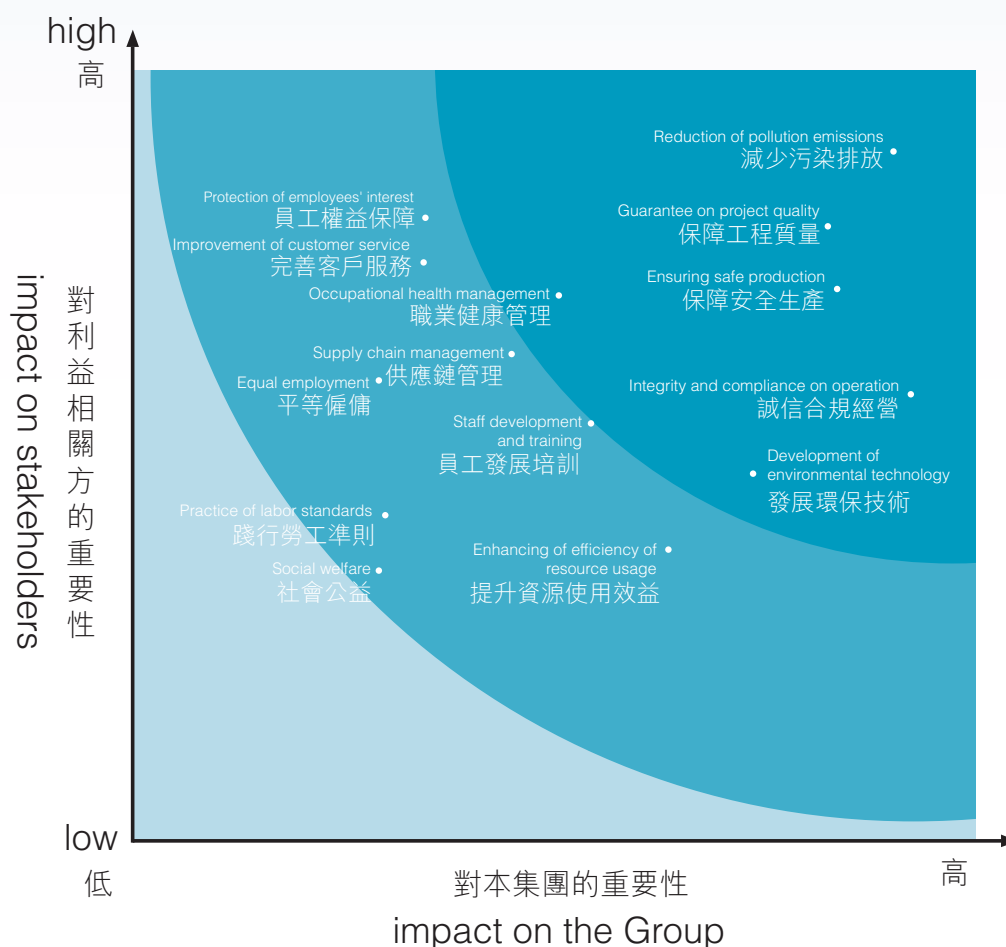


ESG Report (Continued)

環境、社會及管治報告 (續)

Based on the requirements of the ESG Guide of the Hong Kong Stock Exchange, the Group has rationalized, screened and prioritized the issues which have a substantial impact on the Group's economic, environmental and social issues and have a material effect on stakeholders' evaluation and decision-making by benchmarking the standards of international and domestic leading enterprises, so as to establish an important basis for the management and disclosure of ESG information.

本集團在香港聯合交易所《ESG指引》要求的基礎上，通過對標國際及國內領先企業的實踐，對反映本集團經濟、環境和社會重大影響及對利益相關方評價和決策有實質性影響的議題進行了梳理、篩選與排序，建立作為管理和披露ESG信息的重要基礎。





2. PROTECT ECOLOGICAL ENVIRONMENT AND PROMOTE GREEN DEVELOPMENT

2.1 Promote environmental governance

The Group has always upheld to the philosophy of letting everyone live under the blue sky and white clouds and is committed to becoming a world-class comprehensive group in the environmental protection industry and a service provider of intelligent green housekeeping. After more than ten years of development, the Group has accumulated extensive experience and professional capabilities in areas such as R&D and design, construction and implementation, operation and management from its environmental protection and energy saving projects, and we are gradually transforming our role from a coordinated flue gas solution provider to the intelligent environmental protection housekeeper in relation to the comprehensive treatment services involving flue gas, water, soil and solid waste issues. We provide a full range of environmental protection and energy saving solutions to customers around the world through various business models including environmental protection facility engineering (“EPC”), operation and maintenance (“O&M”) and concession operations (including “Build-Operate-Transfer” or “BOT”, and “Build-Own-Operate” or “BOO”). At present, the environmental projects constructed and operated by the Group have covered almost 30 provinces, municipalities and autonomous regions in China, as well as overseas regions such as Europe, South Asia, Latin America, Africa and Southeast Asia.

2. 保護生態環境，助力綠色發展

2.1 推動環境治理

本集團始終秉持「讓所有人生活在藍天白雲之下」的理念，致力於打造成為國際一流的綜合性環保產業集團及智慧型環保管家服務提供者。經過十餘載的發展，本集團環保節能項目在研發與設計、建設與運行、經營與管理等方面均積累了豐富經驗及專業能力，正逐步實現由煙氣環保協同方案提供商向集煙氣、水、土壤及固廢環境綜合治理服務於一身的智慧型環保管家業務轉變。我們通過環保設施工程(EPC)、運營與維護(運維)和特許經營(BOT)等多種業務模式，面向全球客戶提供全方位的環保節能解決方案。目前，本集團建設、運營的環保項目已遍佈中國近30個省、市及自治區，以及歐洲、南亞、拉丁美洲、非洲及東南亞等海外地區。



- **Treatment of flue gas pollution**

As one of the first participants in China's flue gas treatment industry, the Group is abided by Atmospheric Pollution Prevention and Control Law of the People's Republic of China (中華人民共和國大氣污染防治法) and the State Council's Three-year Sky Defending Plan (打贏藍天保衛戰三年行動計劃) and provides desulfurization, denitrification, dust removal and integrated flue gas treatment services to many enterprises in industries such as power, steel and coking, in order to reduce pollutant emissions and improve production efficiency of the enterprises. The Group has contributed to reducing emissions of sulfur dioxide, nitrogen oxides and smoke ash in the atmosphere. In the reporting period, the Group won the "Top Ten Steel Desulfurization Enterprise Award" and the "Top Ten Steel Denitrification Enterprise Award" in the selection of the top ten most influential flue gas treatment enterprises in the "2019 North Star Cup" as well as the "2019 China Atmospheric Governance Quality Service Award". As of the end of 2019, the Company has undertaken newly constructed and transformed desulfurization projects abroad and domestic with a cumulative contracted amount of 277 units and installed capacity of 119.98 million kilowatts, and denitrification projects with a cumulative contracted amount of 90 units and installed capacity of 27.33 million kilowatts. As of 31 December 2019, the Group's EPC, BOT and O&M projects that have been put into operation can reduce 6.67 million tonnes of sulfur dioxide and 250,000 tonnes of nitrogen oxides annually according to the design standard, and a total of approximately 35.21 million tonnes of sulfur dioxide emissions and approximately 1.15 million tonnes of nitrogen oxide emissions have been reduced in the past years.

- **煙氣污染處理**

本集團作為中國煙氣處理行業的首批參與者，以《中華人民共和國大氣污染防治法》和國務院《打贏藍天保衛戰三年行動計劃》為引領，面向電力、鋼鐵、焦化等諸多行業提供脫硫服務、脫硝服務、除塵服務以及綜合煙氣處理服務，以降低污染物排放量及提高其生產效率。為減少大氣中二氧化硫、氮氧化物和煙塵的排放做出貢獻。報告期內，本集團在「2019年北極星十大煙氣治理企業評選」中獲得「十大鋼鐵脫硫企業獎」和「十大鋼鐵脫硝企業獎」、「2019中國大氣治理優質服務獎」。截至2019年底，公司承接的海內外新建和改造脫硫項目累計合同業績277台套、機組容量11,998萬千瓦；脫硝項目累計合同業績90台套、機組容量2,733萬千瓦。截至2019年12月31日，本集團EPC、BOT及運維已投運項目按設計標準年度可減排二氧化硫667萬噸、氮氧化物25萬噸；歷年總計減排二氧化硫約3,521萬噸、氮氧化物約115萬噸。



Case study: Jingtangshan Desulfurization Ultra-low Emission Project

案例：井岡山脫硫超低排放項目

The Jingtangshan Desulfurization Project is the Group's first flue gas treatment project, where we are responsible for the construction and O&M of flue gas desulfurization facilities for the client's power plants, with a total installed capacity of 1,920 MW. The desulfurization system of this project completely adopts the limestone-gypsum wet desulfurization technology with the Group's own intellectual property rights. The outlet emission concentration of all units is controlled within standards, with SO₂ concentration ≤ 35 mg/Nm³ and smoke dust concentration ≤ 10 mg/Nm³, and the desulfurization efficiency reaches 99.33%, meeting the ultra-low emission standards of the natural environmental protection.

With a well-established system of project management, operation management, production management and technology research and development, neither any desulfurization efficiency below standards has occurred, nor any major personal accident, equipment damage and environmental pollution incident has happened in the past ten years of the construction and operation of the project. While creating economic and social benefits, the project has also made considerable contributions to the local environmental protection work.

井岡山脫硫項目是本集團首個煙氣治理項目，負責為客戶建設並運維電廠煙氣脫硫工程，總裝機容量1,920MW。該項目脫硫系統完全採用本集團擁有自主知識產權的石灰石—石膏濕法脫硫技術，所有機組出口排放濃度均控制在SO₂濃度 ≤ 35 mg/Nm³、煙塵濃度 ≤ 10mg/Nm³標準內，脫硫效率達到99.33%，滿足國家環保超低排放標準。

憑藉完善的項目管理、經營管理、生產管理以及技術研發體系，該項目建設運營十年來，從未發生脫硫效率不達標現象，也未發生過重大人身、設備損壞事故和環保污染事件。在創造經濟效益和社會效益的同時，本項目亦為當地環境保護工作做出了重大貢獻。

In recent years, on the basis of the traditional business of desulfurization and denitrification in the power industry, the Group has been gradually expanding its comprehensive flue gas treatment services to non-electricity industries such as steel, petrochemical and electrolytic aluminum. In the aspect of steel industry, we actively implement the Opinions on Promoting the Implementation of Ultra-low Emissions in the Steel Industry (關於推進實施鋼鐵行業超低排放的意見) jointly issued by five government ministries of China, including the Ministry of Ecology and Environment of the PRC, and carry out desulfurization and denitrification ultra-low emission services for the Hebei Jinxi steel project. Since the beginning of the operation of the project, the desulfurization and denitrification efficiency have reached 98.5% and 89.2% respectively, meanwhile dioxin can be removed and all emission data has reached or exceeded

近年來，本集團立足於電力行業脫硫脫硝的傳統業務，正逐步將煙氣綜合處理服務擴展至鋼鐵、石化、電解鋁等非電行業。在鋼鐵行業領域，我們積極落實中國生態環境部等五部門聯合發佈的《關於推進實施鋼鐵行業超低排放的意見》，為河北津西鋼鐵項目開展脫硫脫硝超低排放服務，該項目運行後脫硫效率達到98.5%、脫硝效率達到89.2%，同時能脫除二噁英，各項排放數據均達到或超過國內相同機



the emission standards of equivalent units in the country. In the aspect of petrochemical industry, we have launched the ultra-low emission upgrade project of thermoelectricity cogeneration units of Sinopec Shanghai, in which the ultra-low emission targets have been met through the construction of an integrated flue gas treatment system – Environmental Protection Island, with nitrogen oxide concentration less than 50mg/Nm³, sulfur dioxide concentration less than 37mg/Nm³ and smoke dust concentration less than 10mg/Nm³. In the aspect of electrolytic aluminum industry, the Weiqiao electrolytic aluminum flue gas desulfurization project which we constructed has a desulfurization efficiency of 91.81%, helping customers to significantly reduce pollutant emissions.

- **Industrial wastewater treatment**

In order to further implement the requirements of the Water Pollution Prevention and Control Law of the People's Republic of China (中華人民共和國水污染防治法) and the Action Plan for Prevention and Control of Water Pollution (水污染防治行動計劃), to help industrial enterprises meet increasingly stringent discharge requirements and to help improve water environmental quality, the Group has gradually expanded its service areas to industrial wastewater treatment business. In 2019, the Group acquired Lubao Sewage Treatment Center in the field of industrial wastewater treatment. By applying advanced processes such as ultrafiltration, nanofiltration and reverse osmosis, the Group has achieved the target of zero discharge of industrial sewage via the wastewater treatment system.

組排放指標。在石化行業領域，我們開展了上海石化熱電聯產機組超低排放改造項目，通過建設集成煙氣處理系統－環保島，實現氮氧化物濃度少於50mg/Nm³，二氧化硫濃度少於37mg/Nm³，煙塵濃度少於10mg/Nm³的超低排放目標。在電解鋁行業領域，我們建設的魏橋電解鋁煙氣脫硫項目，脫硫效率可達91.81%，幫助客戶大幅減少污染物排放。

- **工業廢水處理**

為了深入落實《中華人民共和國水污染防治法》以及國務院《水污染防治行動計劃》要求，幫助工業企業滿足日趨嚴格的排放要求，助力水環境質量的改善，本集團已逐步將服務領域擴展至工業廢水處理業務。2019年，在工業廢水處理領域，本集團收購了潞寶廢水處理中心，通過應用超濾、納濾、反滲透等先進工藝，實現廢水處理系統無工業污水外排的零排放目標。



Case study: Lubao Industrial Park Wastewater Zero Discharge Project

案例：潞寶工業園區廢水零排放項目

In June 2019, the Group further expanded its business into the field of environmental protection services and acquired Lubao Industrial Park Wastewater Treatment Center. As the “environmental steward” of the industrial park, the treatment center provides wastewater discharge and treatment services for chemical companies in the park, creating a win-win model of mutual benefit and joint development.

In order to promote the zero discharge of wastewater in the park, the Group has carried out upgrading and reconstruction of the existing sewage treatment facilities in the wastewater treatment center. The Group has newly constructed an intensified treatment system for concentrated water, to conduct further reduction treatment and zero discharge treatment on the concentrated wastewater produced by the wastewater intensified treatment units and the circulating water and effluent reuse units. The project adopts membrane concentration plus evaporation crystallization process for sewage treatment. The main process of the first stage adopts the pre-treatment plus membrane concentration process, which concentrates the highly refractory wastewater with high intensity to achieve wastewater reduction, while the second stage adopts MVR evaporated crystallization. Through the two-stage treatment process, the problem of the complexity of the water quality of the coking wastewater and its relatively large variation tendency can be solved, thus finally achieving zero discharge of wastewater* via the entire wastewater treatment system in the park.

2019年6月，本集團進一步拓展環保服務領域，收購了潞寶工業園區廢水處理中心，作為工業園區的「環保管家」，為園區內各化工企業提供廢水排放處理服務，打造互惠互利，共同發展的雙贏模式。

為了推進園區廢水實現零排放，本集團對廢水處理中心的原有污水處理設施開展了升級重建工作。新建濃水深度處理系統，對廢水深度處理單元和循環水排污水回用單元產生的濃污水進一步減量處理和零排放處理。項目採用膜濃縮+蒸發結晶工藝進行污水處理，第一段主體工藝採用預處理+膜濃縮工藝，將高難降解廢水高強度濃縮，以實現廢水減量化，第二段採用MVR蒸發結晶。通過兩段處理，解決園區內焦化廢水水質複雜且變化較大的難題，最終實現整個廢水處理系統零排放*。

Note: *According to the national standard stipulated in GB/T21534-2008 “Industrial water usage and conservation-Terminology” (工業用水節水術語), zero discharge of wastewater is defined as “no industrial wastewater is discharged by water production systems of enterprises or main units”.

備註：*根據國家標準GB/T21534-2008《工業用水節水術語》，廢水零排放定義為「企業或主體單元的生產用水系統達到無工業廢水外排」。



2.2 Develop environmental protection technology

The Group always adheres to the principle of “innovation is an inexhaustible driving force for enterprise development” and continuously promotes technological innovation, making a positive contribution to promoting the development of environmental protection technology of the Company and the industry and the tackling of the challenging environmental issues.

- **Continuously to explore and innovate**

The Group is committed to continuously improving its capabilities in technological innovation and has established a comprehensive innovation research and development system comprising, among others, the Regulations on the Management of R&D Projects and the Regulations on the Management of Technical Standardization. It has also set up a training base with simulation of different work scenario, a laboratory for physical model and flow field, a seawater desulfurization thermal experimental platform and a R&D test platform, and also established a Beijing-certified enterprise technology center and a post-doctorate science & research work station. Relying on its strong R&D capabilities, the Group has continuously achieved technological upgrades and breakthroughs. The Group has been rated as an “Innovative Pilot Enterprise in Zhongguancun Science and Technology Park” and a “Standardized Pilot Unit in Zhongguancun Science and Technology Park” and its R&D projects have been acclaimed as “SCR Flue Gas Denitrification Key Technology and Equipment R&D and Industrialization Major Project in Zhongguancun”.

2.2 發展環保技術

本集團始終秉持「創新是企業發展的不竭動力」原則，不斷推動技術創新，為推動公司及行業的環保技術發展、解決環境挑戰，做出正面貢獻。

- **持續開拓創新**

本集團致力於不斷提升自身技術創新能力，建立了包括《研發項目管理規定》、《技術標準化管理規定》等在內的完善的創新研發制度體系。本集團先後搭建了全工況模擬培訓基地、物模流場試驗室、海水脫硫熱態實驗平台和研發試驗平台，並成立北京市認定的企業技術中心、企業博士後科研工作站。依托雄厚的研發能力，本集團不斷實現技術升級和突破，被評為「中關村科技園區創新型試點企業」及「中關村科技園標準化試點單位」，研發項目獲評「中關村SCR煙氣脫硝關鍵技術和裝備研發與產業化重大項目」。



In order to further strengthen its capabilities of innovation and R&D, the Group is also actively carrying out research collaboration with universities. We cooperate extensively with well-known universities both domestic and abroad such as Zhejiang University, Tsinghua University, Nankai University, Southeast University and Waseda University in Japan. Through diversified means such as scientific experiments, joint R&D and talent development, we can drive the transformation of scientific and technological achievements via the promotion of the integration of production, learning, research and application. Meanwhile, we are also committed to promoting technical exchanges between enterprises and technical exchanges internationally. We have started to cooperate with a number of companies in Japan, the United States, Austria and other regions who have mastered the industry's advanced technology through various schemes such as technology import authorization, project technology cooperation and joint technology development, so as to further expand the scope of technology applications and master the industry's cutting-edge technologies.

During the reporting period, the Group's gas turbine waste heat boiler NO_x ultra-low emission technology achieved further breakthroughs, and has been successively applied to two gas turbine denitrification projects in Beijing Jingneng Gaoantun Thermal Power Plant and Beijing Jingxi Thermal Power Plant. Through the optimization of flow field simulation, ammonia spray grid control optimization, zone control and other technical means, the ultra-low emission technology has achieved an ultra-low emission standard of NO_x emission less than 5 mg/Nm³, which is far lower than national and local standards.

為了進一步加強創新研發實力，本集團也積極開展產學研合作。我們與浙江大學、清華大學、南開大學、東南大學、日本早稻田大學等國內外知名高校廣泛合作，通過科學實驗、聯合研發、人才培養等多樣化形式，促進產、學、研、用相結合，推動科技成果轉化。同時，我們也致力於推動企業間及國際間的技術交流，與日本、美國、奧地利等地區多家掌握行業先進技術的企業通過技術引進授權、項目技術合作、聯合技術開發等模式展開合作，進一步拓展技術應用範圍，掌握行業前沿技術。

報告期內，本集團燃氣輪機餘熱鍋爐NO_x超低排放技術取得進一步的突破，先後在北京京能高安屯熱電和北京京西熱電兩個燃氣輪機脫硝項目上，通過流場模擬優化、噴氨格柵控制優化、分區控制等多個技術手段，實現NO_x排放小於5mg/Nm³的超低排放標準，遠遠低於國家及地方標準。



- **Protection of intellectual property**

The Group attaches great importance to the protection of intellectual property rights. The Group complies with national laws and regulations such as the Trademark Law of the People's Republic of China (中華人民共和國商標法), the Patent Law of the People's Republic of China (中華人民共和國專利法) and the Copyright Law of the People's Republic of China (中華人民共和國著作權法), and has formulated and implemented the Patent Management and Award System in order to protect the Company's trademarks, patents, copyrights, business confidential data and other intellectual rights, which are considered as important assets of the Company. Meanwhile, we have also set up a centralized department for patent management, which is responsible for formulating patent management systems and patent strategies, organizing patent applications and the daily management of proprietary intellectual property rights to ensure that the Company's intellectual property management work is carried out in an orderly manner.

During the reporting period, the Group newly added 6 authorized patents, with a cumulative total of 57; and newly added 2 software copyrights, with a cumulative total of 8.

- **Promote industry development**

While continuously improving its technological innovation capabilities, the Group also actively participates in industry exchange activities and works with industry peers to make contributions to the environmental pollution governance sector. The Group serves in a number of capacities in various industry associations, including deputy

- **保護知識產權**

本集團高度重視知識產權保護，遵守《中華人民共和國商標法》、《中華人民共和國專利法》、《中華人民共和國著作權法》等國家法律法規，制定並實施《專利管理及獎勵制度》，視商標、專利、著作權、業務機密數據及其他知識產權為公司重要的資產並予以保護。同時我們也設立了專利管理歸口部門，負責制定專利管理制度及專利戰略、組織進行專利申請以及自主知識產權的日常管理等工作，保障公司知識產權管理工作有序開展。

報告期內，本集團新增授權專利數量6項，累計57項；新增軟件著作權2項，累計8項。

- **推動行業發展**

本集團在持續提升自身技術創新能力的同時，也積極參與行業交流活動，攜手行業夥伴共同為環境污染治理領域貢獻力量。本集團在各行業協會中承擔了多項工作，是全國環保產品標準化技術委員會副主任單位，中國電力企業聯合會節



director of China Environmental Protection Products Standard Technology Committee, deputy president of Sub-association of Energy Conservation & Environmental Protection of the China Electricity Council and standing committee of Desulfurization and Denitrification Committee of China Environmental Protection Industry Association. Meanwhile, the Group also actively participates in the formulation and promotion of national standards and industry standards to promote the enhancement of the overall industry level. As of the end of 2019, the Group had participated in the compilation of 4 national standards and 6 industry standards.

能環保分會副會長單位，以及中國環保產業協會脫硫脫硝委員會常委單位。同時，本集團也積極參與國家標準和行業標準的制定與推廣工作，推動行業整體水平的提升。截至2019年末，本集團累計參與編寫4項國家標準，6項行業標準。

2.3 Strengthen emissions management

While helping customers to reduce pollutant emissions through the construction and O&M of environmental engineering projects, the Group also pays close attention to the emissions from its own office operations. The Group strictly complies with laws and regulations such as the Environmental Protection Law of the People's Republic of China (中華人民共和國環境保護法), the Air Pollution Prevention and Control Law of the People's Republic of China (中華人民共和國大氣污染防治法), the Water Pollution Prevention and Control Law of the People's Republic of China (中華人民共和國水污染防治法) and the Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes (中華人民共和國固體廢物污染環境防治法), and has formulated and implemented internal management systems such as the Environmental Protection Management System and Environmental Protection Supervision and Management System (Trial) to ensure compliance with emission standards and strive to minimize environmental impact. During the reporting period, the Group did not experience any major lawsuit or corresponding punishment due to violations of environmental issues.

2.3 強化排放物管理

本集團在通過環境工程項目的建設及運維幫助客戶減少污染物排放的同時，也時刻關注自身辦公運營所產生的排放物。嚴格遵守《中華人民共和國環境保護法》、《中華人民共和國大氣污染防治法》、《中華人民共和國水污染防治法》、《中華人民共和國固體廢物污染環境防治法》等法律法規，制定並實施《環保管理制度》、《環境保護監督管理制度（試行）》等內部管理制度，保障達標排放並努力將環境影響降至最低。報告期內，本集團未發生因環境問題違規而導致重大訴訟或相應處罰的事件。



Through a comprehensive review of its business activities, the Group has identified certain major emissions, including sulfur dioxide and nitrogen oxides that are discharged after desulfurization and denitrification treatment of concession operation projects, desulfurized gypsum generated in the flue gas desulfurization process, waste catalyst generated in the flue gas denitrification process and greenhouse gases generated from energy consumption in project and office operations. On the basis of the sources of different types of emissions, we have continued to reduce pollutant emissions via various targeted measures such as enhancing management level and technology transformation.

- **Reduce flue gas emission**

The Group reduces the emissions of air pollutant by providing customers with desulfurization, denitrification, dust removal and integrated flue gas treatment services. We continuously innovate the flue gas treatment technology and enhance the efficiency of flue gas removal, so as to meet the technical requirements of “ultra-low emissions”. Meanwhile, we have carried out technology transformation and management improvement for projects that have been put into operation, thereby further reducing the emissions of air pollutants. The emission reduction measures carried out during the reporting period include:

- Flow connectivity transformation was carried out for the Yangxi project to extend the service life of equipment and pipelines and improve system reliability.
- For the Jinggangshan project, a flue gas deflector technology was applied to reduce the desulfurization resistance before the inlet of flue gas. Meanwhile, the desulfurization low-voltage switch cabinet was transformed to ensure the safe operation of the system.

本集團通過對業務活動進行全面的梳理，識別出主要排放物，包括特許經營項目經過脫硫、脫硝處理後排放的二氧化硫、氮氧化物，煙氣脫硫環節產生的脫硫石膏，煙氣脫硝環節產生的廢舊催化劑，以及項目運行及辦公中能源消耗所產生的溫室氣體。基於不同類型的排放物產生的來源，我們通過提升管理水平、技術改造等多種針對性措施，持續減少污染物的排放。

- **減少煙氣排放**

本集團通過為客戶提供脫硫、脫硝、除塵以及綜合煙氣處理服務，從而減少空氣污染物的排放。我們不斷創新煙氣處理技術，提高廢氣脫除效率，以實現「超低排放」的技術要求。同時，我們針對已經投入運行的項目開展技術改造及管理改善工作，從而進一步減少大氣污染物的排放，報告期內開展的減排舉措包括：

- 對陽西項目開展流量連通改造，延長設備管道使用壽命，提高系統可靠性。
- 對井岡山項目採取了在脫硫塔煙氣入口前增裝煙氣導流板技術的措施，以降低脫硫阻力。同時，對脫硫低壓開關櫃進行改造，確保系統安全運行。



- The denitrification operation management was enhanced for the Hejin project. The NO_x emission at the denitrification catalyst outlet was monitored weekly and adjustment was carried out by ammonia injection according to the reaction effect of the catalyst segment, so as to ensure the concentration of NO_x meets the emission standard in the case of unstable coal quality for power generation.

- **Waste management**

The Group has carried out waste disposal activities in compliance with the law, and formulated and implemented the Waste Pollutants Disposal Management System (Trial), pursuant to which wastes are managed through the following classification:

- The main hazardous wastes are waste catalysts, all of which are transferred to a qualified professional recycling plant for disposal after approval by the local environment bureau.
- The main non-hazardous waste is desulfurized gypsum, which is preferentially sold to users who have the utilization ability for reuse. For the desulfurized gypsum that cannot be reused, is stored in the storage and disposal site that constructed in accordance with the Standard for Pollution Control of General Industrial Solid Waste in Storage and Disposal Sites (一般工業固體廢物貯存、處置場污染控制標準). At present, all the desulfurized gypsum generated from the Group's concession operation projects have been sold externally for comprehensive utilization in additive materials in cement plants and gypsum board processing industry.

- 加強河津項目脫硝運行管理，每周對脫硝催化劑出口NO_x進行監測，根據催化劑分部反應效果進行噴氨調整，以確保在發電煤質不穩定的情況下NO_x濃度達排放標準。

- **廢棄物管理**

本集團依法開展廢棄物的合規處置工作，制定並實施《廢棄污染物處置管理制度（試行）》，對廢棄物進行分類管理：

- 主要有害危廢物為廢舊催化劑，全部經過項目所在地環保局批准後轉運給有資質的專業回收廠家處置。
- 主要無害廢棄物為脫硫石膏，優先銷售給有利用能力的用戶進行再利用。不能再利用的按照《一般工業固體廢物貯存、處置場污染控制標準》建設堆存處置場。目前，本集團特許經營項目的全部脫硫石膏已實現對外銷售，於水泥廠添加材料和石膏板材加工行業綜合利用。



ESG Report (Continued)

環境、社會及管治報告（續）

• Major emission indicators

• 主要排放物數據

Indicators 指標名稱	Unit 單位	2019 2019年度
Greenhouse gas		
溫室氣體		
Scope 1: Direct emission 範圍一：直接排放	Tonnes CO ₂ equivalent 噸二氧化碳當量	692.29
Scope 2: Indirect emission 範圍二：間接排放	Tonnes CO ₂ equivalent 噸二氧化碳當量	744,064.94
Total greenhouse gas emissions (scope 1 + scope 2) 溫室氣體排放總量（範圍一+範圍二）	Tonnes CO ₂ equivalent 噸二氧化碳當量	744,757.23
Greenhouse gas emissions intensity 溫室氣體排放密度	Tonnes CO ₂ equivalent/ Tonne/ten thousand of revenue 噸二氧化碳當量／萬元營收	4.06
Flue gas emissions		
廢氣排放量		
Up to standard sulphur dioxide emission under franchise 特許經營下達標排放二氧化硫	Tonnes 噸	3,054
Up to standard NOx emission under franchise 特許經營下達標排放氮氧化物	Tonnes 噸	2,738
Amount of non-hazardous wastes produced⁴		
無害廢棄物產生量⁴		
Intensity of non-hazardous wastes produced 無害廢棄物產生密度	Tonnes/ten thousand of revenue 噸／萬元營收	5.00
Recycling rate of non-hazardous wastes ⁴ 無害廢棄物回收利用率 ⁴	% %	100
Amount of hazardous wastes produced⁵		
有害廢棄物產生量⁵		
Intensity of hazardous wastes produced 有害廢棄物產生密度	Kg/ten thousand of revenue 千克／萬元營收	2.76



Notes:

1. *The scope of emission statistics covers the emissions generated by the daily operation of the Group's flue gas treatment projects (including BOT and O&M projects) and its offices in mainland China. As the Group entered into an asset acquisition agreement for the sewage treatment center in Shanxi Lubao Industrial Park in June 2019, so the project of the sewage treatment center is not covered by the emission statistics for this year.*
2. *The calculation of greenhouse gas emission refers to the Greenhouse Gas Protocol: a corporate accounting and reporting standard 2012 (Amendment) published by World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), and the Fifth Assessment Report issued by Intergovernmental Panel on Climate Change (IPCC). The grid emission factors used in the calculation of Scope 2 refer to the latest emission factors of China's regional power grid for 2017 released by the Department of Climate Change under the Ministry of Ecology and Environment of the PRC.*
3. *Up to standard emissions under concession operation refer to the emissions of sulfur dioxide and nitrogen oxides generated by customers in the Group's flue gas treatment concession operation projects that are currently in operation, after treatment by the Group's desulfurization and denitrification systems.*
4. *The amount of non-hazardous wastes produced includes desulfurized gypsum generated during the flue gas treatment process of the Group's concession operation projects. During the reporting period, all desulfurized gypsum generated from the Group's concession operation projects were sold externally and the recycling rate was 100%.*

備註：

1. 排放物統計範圍涵蓋本集團位於中國大陸的煙氣處理項目(包含BOT及運維項目)及辦公室日常運營過程中產生的排放物。本集團於2019年6月簽訂山西潞寶工業園區污水處理中心資產收購協議，因此該項目未涵蓋在本年度排放物統計範圍內。
2. 溫室氣體排放量計算方法參考世界資源研究所(WRI)和世界可持續發展工商理事會(WBCSD)發佈的《溫室氣體核算體系企業核算與報告標準2012(修訂版)》、政府間氣候變化專門委員會(IPCC)發佈的《第五次評估報告》；用於範圍二計算的電網排放因子參考中國生態環境部應對氣候變化司最新發佈的中國區域電網排放因子(2017年)。
3. 特許經營下達標排放量指本集團目前處於運營階段的煙氣處理特許經營項目中由客戶所產生的排放物經本集團脫硫脫硝系統處理後的二氧化硫及氮氧化物排放量。
4. 無害廢棄物產生量包含本集團特許經營項目在煙氣處理過程中產生的脫硫石膏。報告期內，本集團特許經營項目產生的全部脫硫石膏實現對外銷售，回收利用率為100%。



5. *The amount of hazardous wastes produced includes waste catalysts generated during the flue gas treatment process of the Group's franchised projects, all of which were transferred to a qualified professional recycling plant for disposal after approval by the local environment bureau.*

5. 有害廢棄物產生量包含本集團特許經營項目在煙氣處理過程中產生廢催化劑，全部經過項目所在地環保局批准後轉運給有資質的專業回收廠家處置。

2.4 Resources conservation

The Group adheres to the concept of green sustainable development, comprehensively implements energy conservation, consumption reduction and recycling measures and continuously reduces its resource consumption during operation. The Group strictly complies with national and local laws and regulations related to energy conservation and environmental protection such as the Energy Conservation Law of the People's Republic of China (中華人民共和國節約能源法). Besides, the Group has formulated and implemented its Energy Saving and Consumption Reduction Management System to carry out its management on energy conservation and consumption reduction. In order to promote the efficient use of resources, the Group has set up a "small performance indicator on consumption planning" for the resources mainly consumed in the operation of projects such as power, limestone, liquid ammonia. An analysis meeting is organized monthly to establish an assessment system by the project department. Consumption reduction targets are delegated into different lower-level teams to ensure the effective implementation of energy conservation and consumption reduction measures, thereby significant results have been achieved.

2.4 節約資源使用

本集團秉持綠色可持續發展理念，全面推行節能降耗、循環利用措施，不斷削減運營過程中的資源消耗。本集團嚴格遵守《中華人民共和國節約能源法》等國家和地方節能環保相關法律法規，制訂並實施《節能降耗管理制度》，開展節能降耗管理工作。為了推進資源的有效利用，本集團針對電力、石灰石、液氨等項目運營主要耗用的資源設立了「小型消耗計劃表現指標」，每月組織召開分析會議，按照項目部建立考核體系，將節能降耗目標層層分解到班組級，確保節能降耗的工作有效落實，取得了顯著的成效。



• **Energy conservation**

The energy consumed by the Group is mainly electricity generated during the operation of equipment and in the office and gasoline and diesel consumed during vehicle operation. During the reporting period, the Company further reduced energy consumption through various means such as equipment renovation, system optimization and the promotion of a low-carbon lifestyle. Specific measures include:

- Energy-saving adjustments were made to the demister, and the cyclone blades on the intake side of the condensing and wet film layer of high-efficient demister of absorbing column were modified. After the improvement of the Yuguang project, the front and rear differential pressure was reduced by 54% and the booster fan electric current was reduced by 13%. A single-unit booster fan can save 460,000 kWh of electricity annually.
- Some circulating pump motors were transformed into permanent magnet motors. For instance, 6,257,781 kWh of electricity can be saved annually for the Shenhua project after such transformation.
- Energy-saving adjustment to low-load and low-sulfur oxidation blowers was carried out for the Yangxi project, and addition of synergists was applied to the Yuguang project and the Puzhou project, thereby the operating efficiency of the power units was further enhanced and energy consumption was reduced.

• **減少能源消耗**

本集團涉及的能源消耗主要為設備運行及辦公過程中產生電力消耗以及車輛使用中消耗的汽油及柴油。報告期內，公司通過設備改造、進行系統優化、倡導低碳生活方式等多種方式，進一步降低能源耗用，具體舉措包括：

- 對除霧器進行節能調整，對吸收塔高效除霧器冷凝濕膜層進氣側旋風片進行改造。昱光項目改進後前後差壓降低54%，增壓風機電流降低13%，單機運行增壓風機全年可節電46萬千瓦時。
- 將部分循環泵電機改造為永磁電機。以神火項目為例，此項改造每年可節約電能625.781萬千瓦時。
- 對陽西項目機組開展低負荷、低硫份氧化風機節能調整，昱光項目和蒲州項目採取添加增效劑的措施，進一步提升機組運行效率，減少能源消耗。



- Enhancing employees' awareness of energy saving. Electricity was turned off during non-working hours and air-conditioning temperature was set at not less than 26 degrees Celsius in summer, thus reducing energy consumption in the office.
- Promoting green travel and strengthening the management on the dispatch and using of official vehicles, thus reducing gasoline consumption.
- 培養員工節能意識，非工作時間及時關閉電源，夏季空調溫度設置不低於26攝氏度，降低辦公室能耗。
- 倡導綠色出行，加強公務用車的調度和使用管理，減少汽油消耗。

• **Water conservation**

The water resources consumed by the Group are mainly the production water used in project operation and equipment cleaning and the domestic water used in daily office work, and no issue has been encountered in the process of securing water sources. The Group takes various measures to avoid waste of water resources, which mainly include:

- We reduce the use of production water by formulating wastewater recycling plan and devising wastewater recycling plans targeted for each project department. During the reporting period, the desulfurization wastewater treatment technology was upgraded and renovated for the Jinggangshan project, so that wastewater discharge was reduced and the utilization rate of water resources was enhanced.
- We reduce the use of domestic water by posting water saving signs in public areas and enhancing employees' awareness of water conservation.

• **減少水資源消耗**

本集團主要水資源消耗為項目運行及設備清洗過程中使用的生產用水及日常辦公中使用的生活用水，未發現在求取使用水源過程中有任何問題。本集團採取多種措施以避免水資源的浪費，主要包括：

- 減少生產用水，制定生產廢水回收利用計劃，針對各項目部設計適用的廢水回收利用方案，報告期內對井岡山項目進行了脫硫廢水工藝升級改造，減少廢水排放，提高水資源利用率。
- 減少生活用水，在公共區域張貼「節約用水標識」，提升員工節水意識。



• **Reducing consumption of other resources**

The Group promotes all-round green operations, continuously carries out technology optimization and reduces raw material consumption in the process of project operation. Meanwhile, the Group actively promotes paperless office and strives to complete various production and operation activities while minimizing the impact to the environment. Our measures to reduce consumption during the reporting period include:

- Adjustment was done to certain denitrification projects by optimizing ammonia injection. Approximately 2.8 tonnes of liquid ammonia are saved annually for the Hejin project after the ammonia injection for denitrification is optimized.
- We promote paperless office by building an office automation system (OA) to realize online processing for office procedures. We also strengthen the management of paper distribution, promote the habit of double-sided printing and encourage paper recycling, so as to reduce paper consumption.

• **Data of major resources consumed**

• **減少其他資源消耗**

本集團推行全方位的綠色運營，持續開展工藝優化，減少在項目運行過程中的原料消耗。同時，本集團積極推進辦公環節的無紙化，努力追求在完成各項生產經營活動的同時將對環境的影響減至最少。在報告期內我們開展的減少資源消耗舉措包括：

- 對部分脫硝項目進行噴氨優化調整，其中河津項目脫硝優化調整噴氨後節省液氨約2.8噸／年。
- 推行無紙化辦公，搭建辦公自動化系統(OA)實現辦公流程在線處理，加強紙張領用管理，提倡打印紙雙面使用以及鼓勵紙張回收再利用，從而減少紙張消耗。

• **主要資源消耗數據**

Indicators 指標名稱	Unit 單位	2019 2019年度
Water consumption in offices 辦公室耗水量	Tonnes 噸	7,038
Water consumption for projects operations 項目運行耗水量	Tonnes 噸	16,080,701
Water consumption in total 耗水總量	Tonnes 噸	16,087,739
Water consumption density 耗水量密度	Tonne/ten thousand of revenue 噸／萬元營收	87.60



ESG Report (Continued)

環境、社會及管治報告 (續)

Indicators 指標名稱	Unit 單位	2019 2019年度
Power consumption in offices 辦公室耗電量	kWh 千瓦時	504,251
Power consumption for projects operations 項目運行耗電量	kWh 千瓦時	1,159,378,740
Power consumption in total 耗電總量	kWh 千瓦時	1,159,882,991
Power consumption density 耗電量密度	kWh/ten thousand of revenue 千瓦時／萬元營收	6,315.76
Gasoline consumption 汽油消耗量	Tonnes 噸	219.43
Gasoline consumption density 汽油消耗密度	Kg/ten thousand of revenue 千克／萬元營收	1.19
Diesel consumption 柴油消耗量	Tonnes 噸	11.02
Diesel consumption density 柴油消耗密度	Kg/ten thousand of revenue 千克／萬元營收	0.06

Notes:

1. The statistical scope of resources consumption covers the main resources consumed the daily operation of the Group's flue gas treatment projects (including BOT and O&M projects) and its offices in mainland China. As the Group entered into an asset acquisition agreement to acquire a sewage treatment center in Shanxi Lubao Industrial Park in June 2019, the project was not covered in the emissions statistics for the year.
2. As the Group's main business is flue gas treatment, it is mainly engaged in environmental protection facility construction and providing operation and maintenance services and is less involved in the use of packaging materials. Therefore, packaging materials used in finished products are not a material issue for the Group.

備註：

1. 資源消耗統計範圍涵蓋本集團位於中國大陸的煙氣處理項目(包含BOT及運維項目)及辦公室日常運營過程中消耗的主要資源。本集團於2019年6月簽訂山西潞寶工業園區污水處理中心資產收購協議，因此該項目未涵蓋在本年度排放物統計範圍內。
2. 由於本集團主營業務為煙氣處理，主要開展環保設施建設及運營維護服務，較少涉及包裝材料的使用。因此，製成品所用包裝材料非本集團重要性議題。



2.5 Civilized construction

The Group mainly provides integrated environmental governance services to customers in power, steel, coking and other industries. The construction projects carried out are mainly located in industrial parks and have little impact on the ecological environment and natural resources. In order to further reduce the environmental impact, each project department has formulated the Civilized Construction Management System, pursuant to which we are required to conduct soil restoration immediately when vegetation damages occur during the process of construction, to continuously carry out landscaping and ecological and environmental construction in plant areas, and to sort, collect, store and recycle the production and domestic wastes generated in the construction process.

3. IMPROVING SERVICE QUALITY AND CONSTRUCTING RELIABLE PROJECTS

3.1 Strengthening quality management

Upholding the principle of “sustaining by quality, developing by reputation and benefiting by management”, the Group attaches great importance to project quality and constantly improves the level of quality management throughout the project process. Based on the concept of “full participation and prevention-oriented”, the Group comprehensively carries out its efforts on the improvement of quality management. During the reporting period, the Group achieved its annual quality target of zero major quality accident. Neither abnormal shutdowns or unusual operation events occurred due to quality reasons, nor did it occur that products had to be recalled due to quality problems in the period. Guangxi Qinzhou Power Plant Phase II Expansion Project (2×1,000 MW) and Shanxi Yongji “Constructing Large Unite and Restricting Small Ones” 2×350MW Thermal Power Cogeneration Project were awarded the 2018-2019 China Quality Project Award.

2.5 文明施工

本集團主要面向電力、鋼鐵、焦化及其他行業客戶提供環境綜合治理服務，所開展建設項目主要位於工業園區內，項目建設對生態環境及天然資源造成的影響很小。為了進一步降低環境影響，各項目部制定了《文明施工管理制度》，要求當施工作業過程中出現植被被破壞時立即進行修復，並持續對廠區內進行景觀美化及生態環境建設，並對於施工過程中產生的生產、生活廢棄物進行分類、收集、存放和回收。

3. 提升服務品質，建設安心工程

3.1 強化質量管理

本集團遵循「以質量求生存、以信譽求發展、以管理求效益」的原則，高度重視工程質量，不斷提升工程的質量管理水平。本集團以「全員參與、預防為主」為理念，全面開展質量管理提升工作。報告期內，本集團達成重大質量事故為零的年度質量目標，未發生因質量原因造成的不正常停機或不正常運行事件，亦未發生因質量問題需對產品進行回收的情況。廣西欽州電廠二期擴建工程(2×1,000MW)以及山西永濟「上大壓小」2×350MW熱電聯產工程獲得2018-2019年度國家優質工程獎。



- **Whole process quality management**

The Group strictly complies with relevant national and industry requirements and standards such as Building Law of the People's Republic of China (中華人民共和國建築法) and the Regulation on the Quality Management of Construction Projects (建設工程質量管理條例), and has established and implemented internal quality management systems covering the full cycle of engineering design, construction, inspection and acceptance, including the Engineering Quality Management System, the Engineering Quality Inspection and Acceptance System and the Engineering Quality Reward and Punishment System. In accordance with the latest national and industry standards and learning from the common problems found in the supervision and inspection process, we carry out timely system updates and improvement measures to ensure that the related system is sound and complete.

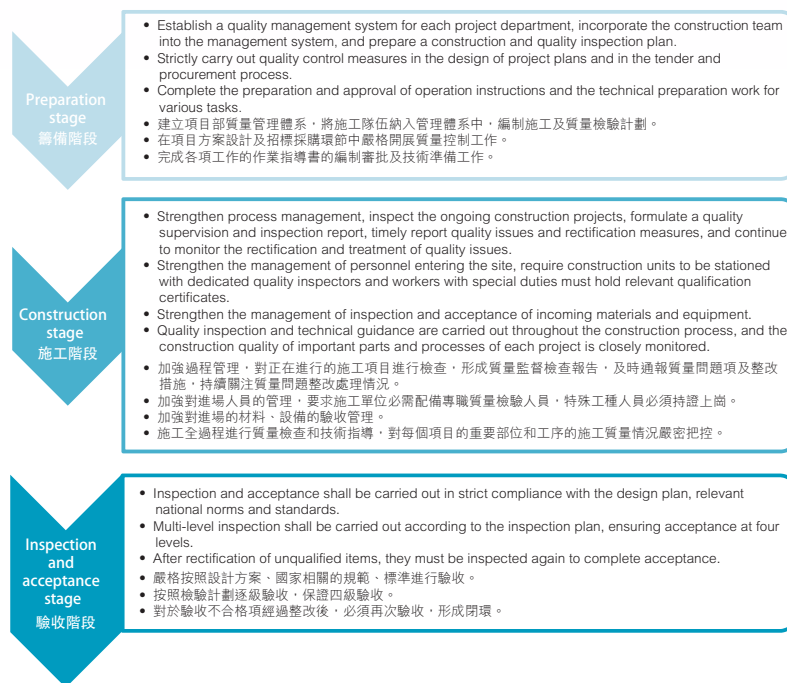
- **全流程質量管理**

本集團嚴格遵守《中華人民共和國建築法》、《建設工程質量管理條例》等國家、行業有關規範、標準，建立並實施《工程質量管理制度》、《工程質量檢查驗收制度》、《工程質量獎懲制度》等覆蓋工程設計、施工、驗收全周期的內部質量管理制度。我們根據國家和行業最新標準，結合監檢中發現的共性問題，及時開展制度更新完善工作，確保體系健全、完善。



The Group obtained the quality management system (GB/T28001-ISO9001) certification in 2003. We have established and perfected our own quality management and assurance system strictly in accordance with the requirements of the above quality management system. We have established a three-level quality supervision and management system in compliance with national norms and industry standards, and delegated the specific job responsibilities to personnel at all levels, such that the relevant officers are responsible for the quality throughout the implementation of projects. Meanwhile, we carry out refined process management at each stage of the project, and continuously promote and standardize our quality management efforts in order to assure our project quality in all aspects.

本集團於2003年獲得質量管理體系(GB/T28001-ISO9001)認證。我們嚴格按照上述質量管理體系的要求，建立並完善了自身質量管理和保證體系。我們根據國家規範和行業標準構建了三級質量監督管理體系，並將特定工作責任委派予各級工作人員，推行工程質量終身制。同時，本集團結合項目各階段開展精細化的過程管理，不斷推動、規範質量管理工作，全方位保障工程質量。





- **Conducting quality management training**

In order to further improve the quality management level of the management personnel of the Company and related projects and the professional skills of the construction personnel, and effectively ensure the quality of the project construction, the Group organizes a training program for quality management annually. In 2019, we convened key management personnel of EPC projects, project managers in the O&M centers and various professional engineers to receive a centralized quality management training, and we also provided quality management and construction process training to project and subcontractor personnel during the course of project quality supervision and inspection. Through detailed illustration and in-depth explanation, attendances can have a clear idea on the quality procedures during construction, quality problems that are prone to occur during construction operations and the preventive measures. As a result, the project personnel's technical knowledge can be consolidated and enhanced and they can also further understand the inspection and acceptance standards of construction quality, thus their quality awareness and construction skill level can be improved.

- **開展質量管理培訓**

為進一步提高公司及項目管理人員質量管理水平和施工人員專業技能，有效保證工程施工質量，本集團每年制定質量管理年度培訓計劃。2019年，我們召集EPC項目主要管理人員、運維中心項目經理、各專業工程師進行了質量管理集中培訓；並在項目質量監檢過程中對項目和分包商人員進行了質量管理和施工工藝培訓。通過圖文並茂、深入細緻的講解，參訓人員能明確了施工中的質量程序、施工作業中容易出現的質量問題及避免方法，從而使項目人員鞏固提高了工藝專業知識，進一步了解了施工質量驗收標準，使施工人員的質量意識和施工技能水平得到了提高。



Case study: Guangxi Qinzhou Power Plant Phase II Expansion Project was granted the National Quality Project Award

案例：廣西欽州電廠二期擴建工程榮獲國家優質工程獎

The Group always aims to construct quality projects and strictly implements quality management. During the expansion of the 2×1,000 MW supercritical unit of the Qinzhou Power Plant in Guangxi, the Group comprehensively managed the project quality in strict compliance with national and industry technical regulations, specifications, standards and design plans. The Group has organized and established a quality assurance system and supervision system for the entire process of the project with the joint participation of the project department, construction unit, design and procurement department. The project department strictly implements a three-level quality management system. The technical leaders at all levels of the project are technically fully responsible for the construction quality, and the project manager is responsible for the project quality throughout the implementation of the project. We also have quality managers and full-time quality inspectors stationed at project quality departments, subcontractors and the site management and arrange part-time quality inspectors in each team, so that the quality management work is delegated to the posts of different levels.

During the process of project construction, we carry out quality inspection precaution measures in strict compliance with current standards and specifications, urge subcontractors to carry out quality self-inspection in strict compliance with standardized procedures, and inspect, supervise and deal with construction quality problems in a timely manner. We hold regular quality management meetings to fully understand the updated status of project construction quality issues, timely analyze the quality trends of the construction project, summarize experience and lessons, and formulate strategies and preventive measures. With all staff participating in the quality management throughout the implementation of the project, we have effectively achieved the objective of “everyone is responsible and everything is rule-based, well-documented and supervised”. We eliminated quality problems and defects at the beginning, effectively guaranteed the project construction quality and won the 2018-2019 National Quality Engineering Award.

本集團始終以打造優質工程為目標，嚴格執行質量管理工作。在廣西欽州電廠二期2×1,000MW超臨界機組擴建工程中，本集團嚴格按照國家和行業技術規程、規範、標準、設計圖紙對工程質量進行全面管理，組織建立了由項目部、施工單位、設計、採購等共同參與的工程全過程質量管理保證體系和監督體系。項目部嚴格實行三級質量管理制度，項目各級技術負責人在技術上對施工質量全面負責，項目經理對工程質量終身負責。我們亦為項目質量部、分包商、工地配備了質量管理人員專職質量檢查員，在各班組設立兼職質量檢查員，將質量管理工作分派至不同層面的崗位。

在工程施工過程中，我們嚴格按照現行標準、規範開展質量檢查預控，督促分包商嚴格按照規範程序細緻進行質量自檢，及時檢查並監督處理施工質量問題。我們定期召開質量例會以全面掌握項目工程施工質量動態，及時分析工程施工項目的質量趨勢，總結經驗和教訓，制定對策和避免措施。通過推行全過程、全員質量管理，切實做到了「凡事有人負責，凡事有章可循，凡事有據可查，凡事有人監督」，將質量問題和缺陷在萌芽前消滅，有效保證了項目工程施工質量，並獲得了2018-2019年度國家優質工程獎。





3.2 Ensuring safe production

The Group regards safeguarding production safety and employee health as the foundation of the Company's sustainable development. The Group strictly abides by the Production Safety Law of the People's Republic of China (中華人民共和國安全生產法), the Law on Prevention and Control of Occupational Diseases of the People's Republic of China (中華人民共和國職業病防治法) and relevant laws and regulations of the place of operation, continuously improves occupational health and safety management, and has obtained the occupational health and safety management system certification. During the reporting period, the Group did not have any major safety accidents, nor did it experience any punishment for serious violations of laws and regulations related to occupational health and safety in the locations where it operates.

- **Safety goals**

The Group always adheres to the safety management concept of "zero accident, zero damage and zero casualty". In 2019, in order to clarify the yearly key tasks of production safety, the Group established the annual safety goals of "eradicating major safety accidents, eradicating major accidents with casualties, eradicating major fire accidents, no traffic accidents involving primary responsibilities, no occupational accidents and no electrical misoperation accidents. With our sound and comprehensive safety management, all safety goals for 2019 have been successfully achieved.

3.2 保障安全生產

本集團將保障安全生產和員工健康作為公司可持續發展的根本。本集團嚴格遵守《中華人民共和國安全生產法》、《中華人民共和國職業病防治法》及運營地相關法律法規，持續完善職業健康安全管理工作，並獲得職業健康安全體系認證。報告期內，本集團並未發生任何重大安全事故，亦未曾發生任何有關嚴重違反運營所在地職業健康安全相關法律法規而遭受處罰的情況。

- **安全目標**

本集團始終堅持「零事故、零傷害、零傷亡」的安全管理理念。2019年，為了明確年度安全生產重點任務，本集團設立了包括「杜絕重大安全事故、杜絕重大人身傷亡事故、杜絕重大火災事故、不發生負主要責任的交通事故、不發生職業危害事故、不發生電氣誤操作事故」的年度安全目標。憑藉健全和完善的安管理工作，2019年度所有安全目標均順利達成。



Indicators 指標名稱	Unit 單位	2019 2019年度
Number of work-related injury accidents ¹ 工傷事故發生數 ¹	Number 項	0
Number of work-related injuries (fatalities) 工傷(死亡)人數	Number 項	0
Number of fatalities of subcontractors due to production accidents 承(分)包商因生產事故死亡的人數	Number 項	0
Number of working days absented due to work-related injuries ¹ 因工傷損失工作日數 ¹	Day 天	0

Note: 1. The data of work-related injury includes productive work-related injury accidents happened during the reporting period.

備註：1. 工傷數據包含報告期內發生的生產性工傷事故。

• **Improving safety management**

The Group is committed to promoting a long-term mechanism of safe production by formulating and strictly implementing the requirements of “Departmental Safe Production Responsibility System and Job Safety Responsibilities”, so as to fully enhance the level of production safety management. The Group adopts a two-aspect and three-level safety management model. At the Group’s company aspect, a three-level safety and quality management system is established with the Chairman and the Chief Executive Officer as the top level, each vice president as the second level, and each department, institute and center as the third level. At the front-line project department aspect, a safety and quality management system is implemented with EPC engineering management center and O&M management center as the first level, the project leaders of each project department as the second level, and the professional teams as the third level. Our safety management efforts are broadened and deepened to cover all segments and levels, ensuring the effective implementation of safety management.

• **完善安全管理**

本集團致力於推進安全生產長效機制，制定並嚴格實施《安全生產責任制及崗位安全職責》以全面提高安全生產管理水平。本集團採用雙層三級安全管理模式，在集團公司層面，成立了以董事長、總裁為頂層級，各副總裁為第二級，各部門、院、中心為第三級的三級安全質量管理體系。在一線項目部層面，施行以EPC工程管理中心和運維管理中心為第一級，各項目部項目負責人為第二級，各專業班組為第三級實施安全質量管理的體系化管理。通過橫向到邊，縱向到底的管理模式，保障安全管理工作的有效落實。



In order to ensure that employees at all levels in each project department can practice safety management with the same high standards, the Group continues to promote the formulation and implementation of safe production standardization. At the stage of standards formulation, we insist on starting from each technical procedure and step to build up a safety quality management system for each professional process strictly in compliance with national standards and regulations, so as to promote the overall level of safe production standardization with the compliance of every procedure. At the implementation aspect, we have implemented the safe production responsibility system by continuously improving the safety standardization organization system, such that every management requirements are standardized and the effective operation of safety standardization is effectively guaranteed. Besides, we have also procured the continuous deepening and improvement of safe production management. During the reporting period, the first-phase engineering project (2×1,000MW) of the Group's SDIC Nanyang Power Plant was rated as a first-class engineering construction project for standardized power safety production.

為了確保各項目部各級員工都能以同樣的高標準要求開展安全管理工作，本集團持續推進安全生產標準化的創建和執行工作。在標準創建階段，我們堅持從每道工序、每一個環節入手，嚴格按照國家標準規程操作建立各專業工序安全質量管理體系，以每道工序的達標來促進安全生產標準化整體水平的提高。在執行層面，我們通過不斷完善安全標準化組織體系，落實安全生產責任制，使每項管理要求標準化，有力地保證安全標準化的有效運行。此外，我們促使安全生產管理工作不斷深入、不斷提高。報告期內，本集團國投南陽電廠一期工程項目（2×1,000MW）被評為電力安全生產標準化一級工程建設項目。

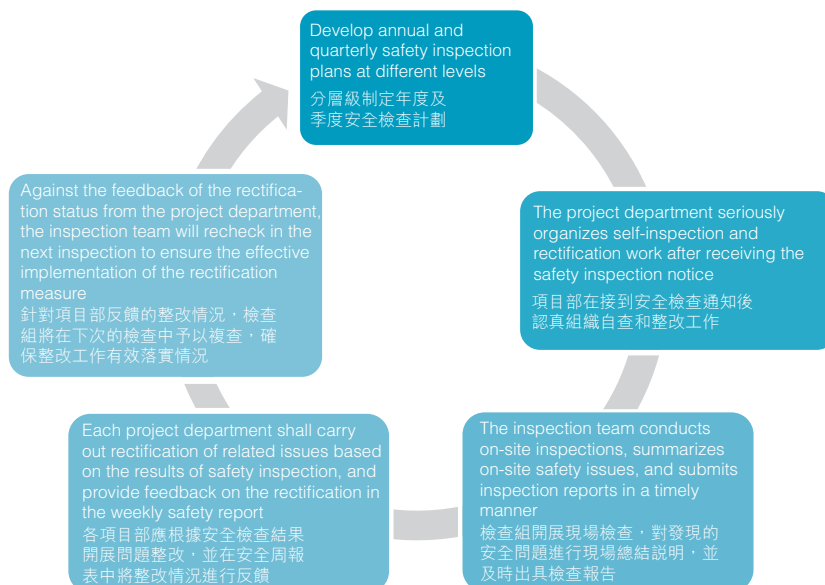


• **Eliminate potential safety hazard**

The Group has established a normalized safety inspection work mechanism in accordance with its Safety Hazard Detection and Governance and Management System. Through the closed-loop safety inspection process, the Group has ensured the timely detection and rectification of potential safety hazards and effectively incorporated safety standardization requirements into the daily management of projects. In 2019, the Group continued to conduct compliance inspections pursuant to the requirements of “inspecting according to standards and systems and focusing on key issues”, and particularly strengthened the rectification of potential safety hazard from major dangerous sources such as the liquid ammonia storage areas. The electrical systems, sprinkler devices and transportation pipelines with potential safety hazard have been optimized and upgraded, thus further enhancing the assurance of safe production. During the reporting period, the safety hazard eradication rate reached 100%.

• **消除安全隱患**

本集團依據自身《安全事故隱患排查和治理管理制度》，建立了常態化的安全檢查工作機制。通過閉環的安全檢查流程，確保了安全隱患的及時發現、及時整改，將安全標準化要求切實納入到項目的日常管理中。2019年，本集團按照「對標準、查體系、抓重點」的工作要求，持續進行合規性檢查，特別加強了對液氨儲存區等重大危險源的安全隱患整改工作。對存在隱患的電氣系統、灑水裝置、運輸管道進行了優化升級，進一步強化安全生產保障。報告期內安全隱患整改率達到100%。



安全檢查閉環流程
Closed-loop safety inspection process



At the same time, the Group is also highly concerned about the possible negative impact of extreme weather caused by climate changes on project safety. Therefore, the Group has formulated the Special Weather Safe Production Management System, which prohibits construction operations under extreme weather conditions such as gales, heavy snow, earthquakes, extreme cold and scorching heat, thereby ensuring construction safety and project quality. Meanwhile, we also actively carry out natural disaster prevention work and strengthen emergency and precaution management to ensure that 24-hour emergency rescue work can be carried out during extreme weather to avoid personal injury and property damage.

- **Forstoring a safety culture**

The Group carries out its standardized safety education management work in accordance with its “Safety Education Training Management System” to improve the quality of safe production for all employees and prevent the happening of security incidents. During the reporting period, 380 training sessions on safety and quality education were conducted, with a total attendance of 6,500 persons.

In order to make safety education and training more pertinent and practical and to ensure the effectiveness of training, we have designed the following trainings which are pertinent for employees in different positions:

- Trainings are provided for administrative managers and project managers on relevant policies and regulations, as well as basic management and technical know-hows. As such, the management personnel’s understanding on work safety can be enhanced and the basic safe production technology and security management methods can be mastered, thus providing sound conditions for safe production.

同時，本集團也高度關注氣候變化所引發的極端天氣對項目安全可能產生的負面影響。因此，本集團制定了《特殊天氣安全生產管理制度》，禁止在大風、大雪、地震、極寒、炎熱等極端氣候條件下進行施工作業，從而保障施工安全以及工程質量。同時，我們也積極開展自然災害預防工作，加強應急準備管理，確保極端氣候期間可以開展24小時的應急救援工作，避免人員傷害及財產損失。

- **培育安全文化**

本集團依據自身《安全教育培訓管理制度》開展標準化的安全教育管理工作，提高全體從業人員的安全生產素質，防止安全事故的發生。報告期內開展安全質量教育培訓380次，共計培訓6,500人次。

為了使安全教育培訓更具有針對性和實用性，保障培訓效果，我們為不同崗位員工設計了有針對性的培訓內容：

- 向行政管理人員及項目管理人員進行有關政策法規以及基本管理及技術知識的培訓，從而提高管理人員對安全生產工作的認識，掌握基本的安全生產技術和安全管理方法，為保障安全生產提供良好條件。



- Trainings and education are provided for safe production management personnel on specialized laws and regulations, policies and standards, safe production management, technology, accident prevention, work-related injury and occupational disease management and safety culture etc., thus improving the safety management level of professionals in all aspects.
- Safety trainings are conducted in daily work through various forms such as three-level education, special operations and regular education for lower-level employees. Meanwhile, the project department will take advantage of the opportunities of regular and special inspections to carry out themed trainings on occupational health and safe production education for front-line employees in order to strengthen their safety awareness and ability.
- 面向安全生產管理人員開展專業化的法規、政策及標準，安全生產管理、技術，事故預防、工傷事故和職業病管理、安全文化等內容的培訓教育，全方位提升專業人員安全管理水平。
- 面向基層員工通過三級教育、特種作業和經常性教育等多種形式在日常工作中開展安全培訓。同時，項目部利用定期檢查和專項檢查機會，對一線員工開展職業健康和安全生產教育主題培訓，強化員工安全意識和能力。



In order to further improve the safe production quality of all employees, the Group has also actively organized publicity and education activities such as the Safe Production Month, so as to firmly establish the concept of safe production and enhance employees' awareness. Meanwhile, we have also carried out a number of special emergency drills and on-site disposal exercises for various types of emergencies such as disasters, poisoning and electric shock, so as to improve employees' ability to respond to emergencies.

為了進一步提升全員安全生產素質，本集團也積極組織開展「安全生產月」等宣傳教育活動，牢固樹立安全生產理念，增強員工安全生產意識。我們同時針對災害、中毒、觸電等各類突發事件開展了多次專項應急演練和現場處置演習活動，進而提高突發事件應對能力。



組織開展突發事件應急救援演練
Organizing emergency response drills

- **Protecting occupational health**

The Group always prioritizes the health and safety of employees and continues to optimize occupational health management. Based on its Occupational Health and Safety Management System, the Group provides employees with multi-dimensional safeguarding to create a safe, secure and healthy working environment. The main measures carried out during the reporting period include:

- A third party agency was hired to carry out regular inspections of occupational disease hazards at production sites with warning signs posted.

- **保障職業健康**

本集團始終把員工的健康與安全放在首位，持續優化職業健康管理工工作。本集團依據自身《職業健康安全管理制度》，為員工提供多重維度的保障，營造安全放心、健康的工作環境。報告期內開展的主要措施包括：

- 聘請第三方機構對生產現場進行職業病危害因素定期檢測，並懸掛警示標識。



- Industry experts were invited to carry out occupational health training, and external and internal occupational health and safety trainings are organized on a regular basis, enhancing the ability of employees to prevent occupational diseases.
 - Occupational health checkups are organized for all employees every year to keep employees informed of their own health and prevent occupational diseases.
 - Three-level education is provided for every on-site personnel, and the Notice of Occupational Hazards in Labor Contracts are issued to employees, ensuring that employees are aware of the occupational hazards and preventive measures specific to their posts.
 - The Management System for Labor Protective Articles and Safety Tools has been developed and implemented, in order to equip employees with qualified and effective labor protective articles and ensure that employees use occupational disease protective equipment and personal protective articles correctly.
 - We advocate the concept of “work happily and live healthily” and organize health knowledge seminars and various cultural and recreational activities to promote a healthy lifestyle and help employees establish an optimistic and positive attitude.
 - We have upgraded the accident insurance products for on-site project employees, increased the compensation amount of employer liability insurance and strengthened the coverage of protection, such that employees’ interests are better safeguarded.
- 邀請行業專家開展職業健康培訓，並定期組織外部及內部職業健康安全培訓，提升員工防範職業病的能力。
 - 每年為全體員工組織職業健康體檢，使員工及時了解自身健康情況，預防職業病發生。
 - 對每位現場人員進行三級安全教育，向員工下發《勞動合同職業病危害因素告知書》，確保員工知曉所在崗位的職業危害及防護方法。
 - 制定並實施《勞動防護用品及安全工器具管理制度》，為員工配備合格有效的勞動保護用品，保證員工正確使用職業病防護設備和個人職業病防護用品。
 - 倡導「快樂工作，健康生活」的理念，開展健康知識講座和各類文體活動，倡導健康的生活方式，幫助員工樹立樂觀向上的正面心態。
 - 升級項目現場員工的意外保險產品，大幅增加僱主責任險的賠付金額，強化保障範圍，更好地保障員工權益。



3.3 Providing quality service

The Group is committed to providing quality services that satisfy customers. We provide multi-dimensional guarantee measures for the operation and maintenance of projects. Meanwhile, we actively carry out two-way communication and exchange activities with customers, timely improve our service level based on customers' feedback, and protect customers' interests from damage, so as to build sustainable win-win and mutually beneficial relationships with customers.

- **Comprehensive O&M guarantee**

The Group has established a reliable operation guarantee mechanism, to ensure the normal operation of facilities and equipment in compliance with standards during the period of providing operation services and routine maintenance services for customers' desulfurization, denitrification and dust removal facilities. During the reporting period, the Group's O&M business center was awarded the title of "2019 Pioneer Workers of Beijing City". The discharges from the desulfurization, denitrification or dust removal facilities and equipment that the Group is responsible for maintaining and operating are all in compliance with relevant standards. The O&M guarantee measures carried out during the reporting period include:

- In terms of team building, the project manager is the main responsible person in each project department. The management team includes dedicated management personnel in various fields such as security, operation, inspection and repair, materials, finance and logistics, etc., and carry out management work in collaboration with each other with each person assuming their own responsibility.

3.3 提供優質服務

本集團致力於提供令客戶滿意的優質服務。我們為項目的運行維護提供多重維度保障措施，同時積極與客戶開展雙向溝通交流活動，及時根據客戶反饋提升自身服務水平，並保障客戶權益不受損害，與客戶建立可持續的雙贏互惠關係。

- **全方位運維保障**

本集團建立了可靠的運行保障機制，確保在為客戶的脫硫、脫硝及除塵設施提供運營服務及常規維護服務期間，設施及設備按標準正常運行。報告期內，本集團運維業務中心榮獲「2019年北京市工人先鋒號」稱號。本集團所負責維護及運營的脫硫、脫硝或除塵設施及設備，均按照相關標準達標排放。報告期內開展的運維保障舉措包括：

- 在團隊組建方面，各項目部由項目經理作為第一負責人，管理團隊包含安全、運行、檢修、物資、財務、後勤等各領域的專職管理人員，分工協作開展管理工作，各負其責。



- In terms of standardized management, we have formulated detailed rules and regulations covering all aspects of operation procedures, equipment management, operation management, recording, inspection and repair and emergency response, which effectively ensure the normal operation of the system.
 - In terms of inspection and maintenance, we have deployed various professionals on the specific fields of maintenance, electricity and thermal control, etc. for each project team, and carry out 24-hour inspection and maintenance on the operating system to ensure the normal operation of the equipment.
 - In terms of material management, each project has in place a material database and a material procurement team, so that spare parts and required materials can be provided for the site at any time according to planning and production needs.
 - At the same time, the back office provides labor, financial and material support and the services of technical transformation and analysis of difficult problems for the operation of each project through the inter-departmental collaboration mechanism.
- 在標準化管理方面，我們制定了覆蓋了運行規程、設備管理、操作管理、記錄及檢修、事故應急等各個方面的詳細規章制度，有力的保證系統正常運行。
 - 在檢修維護方面，我們為各項目組配置機務專業、電氣專業、熱控專業等各專業人員，圍繞運行系統開展24小時檢修維護，保障設備正常運行。
 - 在物資管理方面，各項目建設有物資資料庫和物資採購小組，按照計劃和生產需要隨時為現場提供備品備件及所需材料需要。
 - 同時，我們通過跨部門的協作機制，由後台部門為各項目運行提供人、財、物支撐以及技術改造、疑難雜症診斷工作。



• **Listening to customers' feedback**

In order to provide customers with better services, the Group has established a customer communication and feedback mechanism, requiring the Company's senior officers should visit the owner when inspection and guidance work are being conducted for the project, and carry out technical exchanges with the owner, listen to the owner's comments and requirements and formulate corresponding improvement measures based on the comments and suggestions put forward by the owner.

In order to better understand the needs and feedbacks of customers, the Group has formulated the Owner Satisfactory Survey Form, which seeks satisfaction evaluations from owners of various O&M projects every quarter. According to the evaluation opinions given by the owners, the Company sorts and summarizes the comments and suggestions for improvements, and organizes relevant departments to study seriously and formulate corresponding solutions and specific measures for the relevant project team to undertake rectification.

• **聆聽客戶反饋**

為了向客戶提供更優質的服務，本集團建立了客戶溝通反饋機制，要求公司高管人員至項目檢查、指導工作時，必須回訪業主方，並與業主方進行技術工作交流，聽取業主方的意見和要求，針對業主方提出的意見和建議制定相應改進措施。

為了更真實地了解客戶的需求和反饋，本集團制定了《業主滿意度調查表》，每季度向各運維項目的業主方徵求滿意度評價。公司根據業主方給予的評價意見進行分類匯總，對提出的改進意見和建議，組織有關部門認真研究，制定相應解決方案及針對措施並要求項目組整改落實。

Indicators 指標名稱	Unit 單位	2019 2019年度
Customer satisfaction 客戶滿意度	score 分	97*
Number of customer complaints 客戶投訴數目	times 次	0

* Average score of the relevant project

* A所屬項目平均得分



- **Safeguarding customers' rights**

The Group strictly abides by national laws and regulations such as the Law of the People's Republic of China on Protecting Consumers' Rights and Interests (中華人民共和國消費者權益保護法) to protect customers' business secrets. Pursuant to the Company's "Professional Code", all employees are obliged to keep company-related information confidential, including information in relation to the Company's assets, products and customers. No information related to the Company may be disclosed to third parties without the Company's authorization. In addition, the Group requires all employees to sign a confidentiality agreement at the same time of entering into the labor contract, which provides explicit regulations on keeping business secrets and requires employees not to disclose customers' business secrets to unrelated or sensitive third parties. In case of divulging customers' business secrets, the related employee will be punished by demotion, relegation or dismissal in accordance with the Management Regulations for Administrative Penalties of the Company, depending on the severity of the circumstances.

- **保障客戶權益**

本集團嚴格遵守《中華人民共和國消費者權益保護法》等國家法律法規，保護客戶的商業秘密。我們在公司《職業規範》中要求「所有員工有義務對公司擁有的資產、產品及客戶的資料等公司利益相關的信息保守秘密，未經公司授權，不得將有關公司的任何信息透露給第三方」。此外，本集團要求所有員工簽訂《勞動合同》的同時簽訂《保密協議》，明確對員工保守商業秘密進行了規範，要求員工不得向無關或敏感的第三方透露客戶的商業秘密。針對員工洩露客戶商業秘密的行為，將按照《公司行政處罰管理規定》，視情節輕重給予降職、降級或辭退處罰。



4. PRACTICING RESPONSIBLE OPERATION AND BUILDING A HARMONIOUS SOCIETY

4.1 Integrity and compliance

The code of conduct of the Group applies to every employee and is to ensure that the business of the Group is in compliance with the prevailing laws and regulations. To enhance combating corruption and upholding integrity, and to conduct anti-corruption work in a practical and effective way, the Group strictly abides by relevant national laws and regulations on anti-corruption and anti-bribery, such as the Company Law of the People's Republic of China (中華人民共和國公司法) and the Anti-Money Laundering Law of the People's Republic of China (中華人民共和國反洗錢法). The Group has formulated a number of internal rules and regulations, such as the Management Regulations for Administrative Penalties of the Company, the Internal Control Guidelines, the Internal Audit Guidelines and Administrative Measures on Anti-Money Laundering (Trial), and established an anti-corruption system covering early prevention, monitoring process of corruption incidents, and post-incident evaluation and handling.

During the reporting period, the Group did not have any cases of commercial bribery, extortion, fraud and money laundering.

- ***In compliance with professional norms***

The Group requires each employee to abide by the China Boqi Professional Code, which covers topics such as anti-corruption, anti-bribery, conflict of interest handling, data confidentiality and security. In addition, the Group and the employees from the procurement department have entered into the Officer Professional and Ethics Agreement, which outlines the requirements for employees in the Group's working system, professional industry standards and integrity and self-discipline, and prohibits any form of bribery, extortion, fraud and money laundering.

4. 踐行責任運營，共建和諧社會

4.1 誠信合規經營

本集團的行為守則適用於每一位員工，以保證本集團的業務符合現有的法律法規。為加強反腐倡廉建設，紮實有效地開展反腐倡廉工作，本集團嚴格遵守《中華人民共和國公司法》、《中華人民共和國反洗錢法》等反貪污、反賄賂相關國家法律法規，制定《行政處罰管理規定》、《內部控制管理制度》、《內部審計管理制度》、《反洗錢工作管理辦法（試行）》等多項內部規章和制度，構建了覆蓋事前預防、事中監督、事後評估及處理的反貪污體系。

報告期內，本集團未發生任何商業賄賂、勒索、欺詐及洗黑錢的案件。

- ***遵守職業規範***

本集團要求每一位員工遵守《中國博奇職業規範》，內容涵蓋反腐敗、反賄賂、利益衝突處理、數據保密與安全等議題。除此以外，本集團與採購部員工簽訂《員工職業操守承諾書》，從本集團制度流程、員工職業行業標準及廉潔自律等方面對員工提出要求，嚴禁任何形式的賄賂、勒索、欺詐及洗黑錢行為。



- **Effective whistle-blowing channels**

The Group has a competent department in charge of handling reports on bribery, extortion, fraud and money laundering, which also investigates related disciplinary issues and gives handling advice. The Group has also set up an email for whistle-blowing and lodging complaints for all employees and the public to report possible wrongful conducts and integrity issues. Privacy of all informers is strictly confidential such that no retaliation would be resulted from such reporting. After receiving the reported information, the competent department shall immediately verify the relevant information and conduct investigations or special audits as appropriate. Any cases identified involving corruption will be handled according to relevant regulations.

4.2 Growing with employees

The Group adheres to the principle of “nurturing talents” and upholds the principle of equal employment. We protect the basic rights and interests of employees, help employees to develop their careers, care about their lives and strive to benefit all employees from the development results of the Company, so as to achieve harmonious progress and mutual development between the Company and its employees.

- **健全舉報渠道**

本集團設有負責處理關於賄賂、勒索、欺詐及洗黑錢的舉報事宜的主管部門，並對相關違紀問題進行調查並提出處理意見。同時設立有舉報及投訴郵箱，以供全體員工及公眾舉報潛在的不道德行為及誠信事宜。所有舉報人員的隱私均會受到嚴格保密，以保證不會由於該舉報引致任何報復。主管部門在收到舉報信息後，第一時間核實相關信息，並視情況適當進行調查或開展專項審計。如認定有貪腐等事件將根據相關規定進行處理。

4.2 攜手員工共進

本集團秉承「人才強企」的發展原則，堅持平等僱傭原則。我們切實保障員工基本權益，助力員工職業發展，關心員工生活，努力將發展成果惠及全體員工，實現企業與員工和諧共進、共同發展。



• **Equal employment**

The Group fully complies with national laws and regulations such as the Labor Law of the People's Republic of China (中華人民共和國勞動法) and the Labor Contract Law of the People's Republic of China (中華人民共和國勞動合同法) and provides equal employment opportunities. The Group has formulated and implemented the Regulations on Recruitment and Employment Management and set up legal and compliant recruitment conditions based on the principles of fairness, impartiality and openness to recruit talents through various channels. The qualifications of professionals are evaluated in the aspect of compliance, attitude, performance and ability, and discrimination arising from race, gender, marital status, religious beliefs and other factors is strictly prohibited. As of the end of 2019, the Group had a total of 1,950 employees, all of whom are located in Mainland China.

• **平等僱傭**

本集團全面遵守《中華人民共和國勞動法》、《中華人民共和國勞動合同法》等國家法律法規，提供平等的就業機會。本集團制定並實施《招聘與錄用管理規定》，本着公平、公正、公開的原則設定合法合規的招聘條件，通過不同渠道進行招聘，從合規、態度、績效和能力等方面評估專業人員的任職資格，嚴格禁止因種族、性別、婚姻狀況、宗教信仰等因素的歧視行為。截至2019年末，本集團共有員工1,950人，工作地點均位於中國大陸。

Indicator	指標	2019 2019年度	
		Number of employee 人數	Percentage 百分比
Total number of employee	員工總數	1,950	
By gender	按性別劃分		
Number of male employee and percentage	男員工人數及比例	1,501	76.97%
Number of female employee and percentage	女員工人數及比例	449	23.03%
By age group	按年齡劃分		
Under (exclude) 30 years old	30歲(不含)以下員工	764	39.18%
30-40 years old	30歲 - 40歲員工	671	34.41%
Over (exclude) 40 years old	40歲(不含)及以上員工	515	26.41%



Indicator	指標	2019 2019年度	
		Number of employee 人數	Percentage 百分比
By departmental function	按崗位類型劃分		
Concession operation management personnel	特許經營管理人員	89	4.56%
Engineering and technical staff	工程技術人員	147	7.54%
Sales personnel	銷售人員	19	0.97%
Research and development personnel	研發人員	62	3.18%
Administrative personnel	行政管理人員	31	1.59%
Production personnel	生產人員	1,602	82.15%

• **Safeguarding employees' rights**

The Group is committed to fostering a harmonious labor relationship by fully respecting employees' demands, safeguarding their legitimate rights and protecting their vital interests. We pursue a democratic management approach and have established a labor union within the Company. Besides, we have also established a mechanism for the open discussion of corporate affairs, a mechanism for employee congress and a mechanism for the communication between employees and directors or supervisors, thus forming a smooth channel for employees' communication and feedback and safeguarding their rights of expression and participation.

• **保障員工權益**

本集團致力透過充分尊重員工訴求，保障員工合法權益，維護員工切身利益，構建和諧的勞動關係。我們奉行民主的管理方式，在公司內部成立工會。此外，我們亦建立企務公開機制、職工代表大會機制、職工董事及職工監事機制，暢通員工溝通反饋渠道，保障員工的表達權與參與權。



The Group strictly complies with the Labor Law of the People's Republic of China (中華人民共和國勞動法) and other relevant regulations of places where the Group operates, so as to establish legal and reasonable standards on working hours, holidays and salaries and to provide employees with social security for the protection of their basis rights and interests. The main measures include:

- Since the date of employment, a labor relationship is established with employees by entering into a written labor contract, which specifies the terms such as the contract period, job specifications and working hours, labor protection and labor conditions, remuneration, social insurance and welfare benefits.
- Reasonable working hours are arranged. For overtime work, overtime wages are paid to employees according to national regulations.
- The premiums of social insurance, accidental commercial insurance and supplementary medical insurance are paid for employees on time.
- Paid annual leave is provided according to the length of service and age of the employee. Female employees enjoy maternity and lactation leave in accordance with law and male employees are also given legal paternity leave. Employees can also enjoy sick leave, personal leave and medical treatment leave according to law for their further reassurance.
- A comprehensive salary system of "basic salary + bonus + allowance" has been established and a flexible performance assessment mechanism has been implemented, pursuant to which employees' salaries can be paid in full and on time.

本集團嚴格遵循《中華人民共和國勞動法》及其他運營所在地有關規定，建立合法、合理的工時、假期、薪酬標準並為員工提供社會保障，保障員工基本權益。主要措施包括：

- 自用工之日起即與員工建立勞動關係，訂立書面勞動合同，明確合同期限、工作內容和工作時間、勞動保護和勞動條件、勞動報酬、社會保險及福利待遇等條款。
- 安排合理工作時間，對於超時工作，按國家規定支付員工相應加班工資。
- 按時為員工繳納社會保險以及意外商業保險、補充醫療保險。
- 按員工工齡、司齡提供帶薪年假。女職工依法享有產假、哺乳假並給予男職工合法的陪產假期。員工依法享有病事假和醫療期，免除員工後顧之憂。
- 建立「基本工資+獎金+津貼」的全面薪酬體系，推行靈活的業績考核機制，按時並足額為員工發放薪金。



- **Prohibiting child labor and forced labor**

The Group complies with the Labor Law of the People's Republic of China (中華人民共和國勞動法) and Prohibition of Child Labor Provisions (禁止使用童工規定) and opposes any form of forced labor. We verify the identity of employees at the time of signing labor contracts with employees, which prevents the use of child labor, forced labor and other illegal employment. In addition, the Group has formulated job responsibilities for each position, so that employees can well aware of and accept their job specifications and requirements before reporting to work. During the reporting period, the Group did not violate any regulations regarding the use of child labor and forced labor, nor did it encounter any litigations due to employment issues.

- **Employee training and development**

The Group adheres to the principle of “on-demand training and serving the practical purpose”, and systematically conducts personnel training in accordance with its own Training Management Regulations. It has established a comprehensive employee training system and created a suitable environment for the development of talents. In response to the different learning needs of different employees, the Group has established a multi-dimensional curriculum system, including induction training for new employees, management skill training, professional technical training, marketing skill training and on-job education specific to the posts of employees. By hiring external experts, assigning personnel to participate in external training and providing diversified training methods such as online learning, the Group has enhanced the effectiveness of training and helped employees to develop their careers.

- **杜絕童工及強制勞工**

本集團遵守《中華人民共和國勞動法》及《禁止使用童工規定》，反對任何形式的強制勞動，在與員工簽訂勞動合同的同時核實員工身份，嚴格避免童工、強制勞動及其他非法用工現象。此外，本集團為每個崗位制訂了崗位職責，使員工到崗前明確工作任務和要求並自願接受。報告期內，本集團未發生使用童工及強制勞工等違規情況，也未發生因僱傭問題導致的訴訟事件。

- **員工培訓與發展**

本集團堅持「按需培訓、學以致用」的原則，依據自身《培訓管理規定》系統性開展人才培養工作，搭建了完善的員工培訓體系，為各類人才發展營造適合的環境。針對不同員工差異化的學習需求，本集團建立了包括新員工入職培訓、管理技能培訓、專業技術培訓、市場營銷技能培訓以及崗位資質類繼續教育等在內的多重維度課程體系。通過聘請外部專家、指派人員參加外部培訓、提供線上學習等多元化培訓方式，切實提高培訓效果，助力員工職業發展。



In addition to providing intensive training, the Group also provides employees with other opportunities which can facilitate their career development, thus establishing a comprehensive development system for employees to help them complete their career development plans. We provide promotion opportunities according to employees' position alignment, and have formulated and implemented the Promotion Evaluation Administrative Measures for various positions such as design and R&D personnel and project managers, so as to provide employees with clear and equal opportunities for development and promotion. We also implement a rotation system for middle-level and senior managers to build a highly comprehensive management talent team.

The Group has also established a scientific appraisal and incentive mechanism to continuously stimulate the personal potential of employees. Based on the performance appraisal system and combined with the annual business development objectives of the Group, we set up business management appraisal indicators to help employees improve their work efficiency and motivate employees to develop their careers aggressively. Meanwhile, we have also implemented equity incentive policies for the Company's senior management and key employees to further stimulate the initiative of core talents and promote business innovation and management optimization, as well as promote the realization of personal value and the long-term development of the enterprise.

除了豐富的學習機會，本集團也為員工提供其他有助職業發展的機會，建立了完善的員工發展體系，幫助員工完成其職業生涯發展規劃。我們按照職位序列為員工建立職級發展通道，針對設計研發崗位、項目經理崗位，制定並實施《職級晉升評估管理辦法》，為員工提供清晰、平等的發展晉升機會；針對中高層管理人員，我們施行崗位輪換制，從而打造一支高複合型管理人才隊伍。

本集團也同時建立了科學的考核及激勵機制，不斷激發員工的個人潛能。我們根據績效考核制度，結合年度集團經營發展任務，設立經營管理考核指標，幫助員工提高工作效率的同時激發員工積極進取。同時，我們對公司核心管理人員及骨幹員工實施股權激勵政策，進一步激發核心人才主觀能動性，促進業務創新及管理優化，促進個人價值實現及企業的長遠發展。



• **Caring for employees**

The Group attaches great importance to humane care and care much about the quality of life of employees, so that we encourage employees to enjoy life on the premise of balanced work. During the reporting period, a number of employee care activities were carried out in the following various forms:

• **員工關愛**

本集團重視人文關懷，切實關注員工生活質量，並鼓勵員工在平衡工作的前提下享受生活。報告期間通過多樣化的形式開展了多場關愛員工活動：



開展秋季登高攝影活動
A hiking and photography activity was organized in the autumn

組織員工生日會
Birthday parties for employees

舉辦「激情夏日、博羽爭鋒」
羽毛球比賽
A badminton tournament was hosted in the summer



• We have established a sports club and regularly organize various sports activities. During the reporting period, 28 badminton events, 9 football events and 26 song and dance events were organized. While enhancing the physical fitness of employees, the events also created a good corporate culture atmosphere in a subtle way.

• 成立文體俱樂部，定期舉辦各類文體活動。報告期間內開展羽毛球俱樂部活動28次，足球俱樂部活動9次，歌舞俱樂部活動26次，在增強員工體質的同時，從細微處營造了良好的企業文化氛圍。

• We have organised festival and birthday celebrations to create a relaxed and gaily atmosphere at holiday or birthdays. We also arrange a wide range of activities such as cake sharing or birthday parties to enhance employees' happiness.

• 開展節日、生日慶祝，為給員工營造輕鬆、愉快的節日或生日氣氛，組織員工開展分享蛋糕慶生等豐富的活動，提升員工幸福感。

• We care for female employees and give them special benefits for Women's Day.

• 關愛女性員工，給予女性員工三八婦女節特別福利。



4.3 Improving supplier management

Reliable and excellent suppliers are important safeguards for the construction of quality projects of the Group. We continue to improve the management of suppliers and constantly improve the management system covering the entire process of supplier admission, selection and qualification management. While ensuring the smooth operation of projects, we avoid environmental and social risks involved and promote the positive progress of the supply chain.

- **Supplier admission and selection**

The Group has established a comprehensive management system for the admission, tender and procurement of suppliers, and formulated and implemented the Regulations for the Management of Qualified Suppliers, setting stringent regulations for a range of admission standards such as suppliers' business conditions, quality management, environmental management, occupational health management, safe production qualification status, industry performance, market conditions, financial situation, technical standards and production and operation status. Meanwhile, according to the operating characteristics of different projects and the features of purchased products and services, we formulated and implemented a number of supplier tender and procurement management systems such as the Provisions for the Management of Engineering Equipment/ Material Procurement, the Project Tender Management System and the O&M Tender Management System. Based on the systems, we clarify the responsibilities and the delineation of duties of each department in the procurement of equipment and ensure that the products we purchased comply with the requirements of the contracts, national or industry mandatory standards, regulations and specifications.

4.3 完善供應商管理

精良的供應商隊伍是本集團建設優質工程的重要保障。我們持續提升供應商管理工作，不斷完善覆蓋供應商准入、選擇以及合格供應商管理全流程的管理體系，在為項目順利實施提供保障的同時規避供應鏈上的環境及社會風險，推動供應鏈的正向前進。

- **供應商准入及選擇**

本集團建立了完善的供應商准入及招標採購管理工作制度，制定並實施《合格供應商管理規定》，對供應商的經營情況、質量管理、環境管理、職業健康管理及安全生產資格獲取情況、行業業績、市場情況、財務狀況、技術標準以及生產經營狀況等准入標準制定了嚴格的規定。同時，我們針對不同項目的運行特點以及所採購產品及服務的特性，制定並實施《工程設備／材料採購管理規定》、《工程類招標管理制度》及《運維類招標管理制度》等供應商招標採購管理制度，明確列明及描述各部門在設備採購中的職責與分工，確保我們所採購的產品符合合同、國家或行業強制性標準、規定和規範要求。



On the basis of complying with the unified system and procedure of tender and procurement, we also incorporate the special needs of customers and projects into the supplier selection process. For instance, for certain overseas projects that need to satisfy local special standards (e.g. EU standards), we clearly set relevant standards as supplier admission requirements in the tender documents, and strictly review the relevant performance and qualifications of suppliers to ensure that all of the customers' needs are met throughout the operation of the projects.

- **Qualified supplier management**

The Group has established a standardized supplier evaluation mechanism in accordance with the requirements of its Provisions for Qualified Supplier Management. We also continue to focus on all aspects of management and practical performance of suppliers by conducting quarterly and annual evaluations.

During the quarterly and annual evaluation process of the suppliers, we use the Supplier's Quarterly Evaluation Form and the Supplier's Annual Evaluation Form to conduct a comprehensive evaluation and appraisal on a wide range of factors reflected in their daily operations such as contract performance capabilities, after-sales services, product and project quality, construction quality, production safety, environmental issues, technical capabilities, integrity, honesty and violations of laws and regulations. According to the final score, we classify the suppliers into major suppliers that have better performance and are worth long-term cooperation, suppliers to be alerted that need to be used with caution in the daily procurement process, and unqualified suppliers that need to be excluded from the admission list. As such, the dynamic management and continuous optimization of the supplier base can be realized. Meanwhile, in response to the inadequacy and shortcomings of suppliers found in the evaluation and appraisal, we understand and monitor the rectification of related issues through relevant business departments, and encourage each supplier to improve continuously.

在遵循統一的招標採購制度及流程的基礎上，我們也將客戶及項目的特殊需求納入供應商選擇過程中。例如針對部分需要執行當地特殊標準（如歐盟標準）的海外項目，我們在招標文件中明確將相關標準作為供應商准入要求，並嚴格審核供應商的相關業績和資質，從而確保在項目實施過程中滿足客戶的各項需求。

- **合格供應商管理**

本集團按照自身《合格供應商管理規定》的要求，建立了標準化的供應商評估機制。我們亦通過開展季度考評及年度考評，持續關注供應商各方面的管理及實踐表現。

在供應商的季度及年度考評過程中，我們根據《供應商季度考評表》及《供應商年度考評表》，對供應商在日常工作中所體現的合同履約能力、售後服務、產品及工程質量、施工質量、安全生產及環境問題、技術能力、誠信履約及違法違規情況在內的多方面因素進行綜合考核評價。最終根據得分情況將供應商劃分為表現較好可長期合作的主要供應商、日常招採過程中需慎用的預警供應商、以及需要進入准出流程的不合格供應商，實現對供應商庫的動態管理持續優化。同時，針對供應商在考評評估中體現出的不足和短板，我們通過相關業務部門實時了解督促問題整改情況，鞭策每一家供應商不斷改善。



ESG Report (Continued)

環境、社會及管治報告 (續)

In 2019, the management data of the Group's suppliers are as follows:

2019年度，本集團供應商管理數據如下：

Indicators 指標名稱	Unit 單位	2019 2019年度
Total number of suppliers 供應商總數	Number 個	463
Number of suppliers in the Mainland China, Hong Kong, Macau and Taiwan 其中中國大陸及港澳台地區供應商數	Number 個	447
Number of overseas suppliers 其中海外地區供應商數量	Number 個	16
Number of suppliers where the related practices are being implemented 執行有關慣例的供應商數目	Number 個	463
Annual evaluation ratio of suppliers where the related practices are being implemented 向供應商執行有關慣例的年度評價率	% %	100%

- **Building a responsible supply chain**

The Group attaches great importance to the environmental and social performance of suppliers, and incorporates such performance into the evaluation and appraisal process of each stage including supplier admission, qualified supplier management and supplier exit, thereby avoiding environmental and social risks in the supply chain. The main management initiatives undertaken include:

- In the pre-qualification stage, any inadequacy in the security management and corporate legal credibility of suppliers will render their exit.
- In the scoring stage of admission review, the certification of the quality management system, environmental management system and occupational health and safety system is taken as a requisite condition for admission.

- **建設負責任供應鏈**

本集團高度關注供應商的環境及社會履責情況，並將其納入供應商准入、合格供應商管理以及供應商退出的各個階段進行評估考量，從而規避供應鏈上的環境及社會風險，開展的主要管理舉措包括：

- 在資格預審階段，將供應商安全管理及企業法律信譽作為准入一票否決條件。
- 在准入評審資質打分階段，將質量管理體系、環境管理體系、職業健康安全體系認證情況作為准入必要條件。



- In the annual appraisal of qualified suppliers, the safety management, environmental management and quality management of suppliers reflected in the execution process of contracts are taken as necessary indicators for scoring.
- With respect to the decommission of suppliers, it is explicitly required that suppliers who violate the Group's "Integrity Provisions" shall be exited from the list of qualified suppliers and will never be engaged in the future.
- 在合格供應商年度考評中將供應商在合同執行環節的安全管理、環境管理、質量管理等列為評分必要指標。
- 在供應商退出管理中，明確要求對違反本集團「廉潔條款」的供應商，取消合格供應商資格，列入公司供應商黑名單，永不合作。

While strengthening risk management, we proactively select products that are more environmentally friendly and energy-efficient and actively exercise green procurement. At present, all the high-voltage motors purchased by the Group comply with the "Secondary Energy Efficiency IE3" standard in the national standard "Minimum allowable values of energy efficiency and energy efficiency grades for small and medium three-phase asynchronous motors" (中小型三相異步電動機能效限定值及能效等級) (GB18613-2012), thereby reducing the energy consumed in equipment operation.

在強化風險管理的同時，我們主動選擇更加環境友好、高效節能的產品，積極踐行綠色採購。目前，本集團所採購的全部高壓電機均符合國家標準《中小型三相異步電動機能效限定值及能效等級》(GB18613-2012)中的「二級能效IE3」標準，從而降低設備運行中的能源消耗。

4.4 Public welfare campaigns

The Group strives to bring positive changes to the society through its own initiatives by actively participating in public welfare activities in its operating areas and understanding the development needs of the community. We extend the theme of environmental protection from our own business to social welfare activities. By calling on employees to actively participate in environmental protection activities such as tree planting, cycling and garbage sorting, we spread the concept of environmental protection to the public and strive to enhance the environmental protection awareness of the entire society in order to build a green world together.

4.4 開展公益活動

本集團努力通過自身行動為社會帶來正向改變，積極參與運營所在地的公益活動，了解社區的發展需求。我們將環保主題由自身業務延伸至社會公益活動中，通過號召員工積極參與植樹、騎行、垃圾分類等環保活動，將環保理念傳播給社會公眾，努力激發全社會環保意識的提升，共建綠色家園。



Case study: Volunteers take on the mission to safeguard the water quality and protect the beautiful river bank

案例：志願擔使命同飲一江水守護最美江岸線

In July 2019, a number of employees from the Group's Jingjiang O&M project department volunteered to participate in the civilized and voluntary service activity of "Caring for China's Mother River, the Yangtze, and Protecting the Beautiful River Bank". The volunteers walked for 1.3 kilometers along the Yangtze River and cleaned up all kinds of garbage such as grasses, plastic bags, glass bottles, cans, etc., washed up by the river along the tide, and sorted the garbage according to environmental protection requirements. During the event, the volunteers cleaned up more than 200 kilograms of garbage and floating objects on the river bank and guarded the beautiful Yangtze river bank with practical actions.

2019年7月，本集團運維項目部多名員工志願者參與了「關愛長江母親河，守護最美江岸線」新時代文明實踐志願服務活動。志願者們在長江沿岸徒步1.3公里，將沿途隨着潮汐被江水沖刷上岸的草叢、塑料袋、玻璃瓶、易拉罐等各種垃圾清理乾淨，並按照環保要求進行了垃圾分類。活動中志願者們共同清理江岸垃圾、漂浮物200餘斤，以實際行動守護最美長江岸線。





Case study: Practicing social responsibility by planting tree for the public interest

案例：踐行社會責任，公益植樹造林

In April 2019, the Group organized employees to visit Taiyang Village, Shunyi, Beijing in their spare time, and carried out a caring and voluntary tree planting activity with the theme of “Practicing Social Responsibility by Planting Trees for the Public Interest”. While promoting employees’ environmental awareness, we disseminate the concept of green development to the public.

2019年4月，本集團組織員工利用工作之餘前往北京市順義太陽村，開展了以「踐行社會責任，公益植樹造林」為主題的愛心義務植樹活動，在推動員工環保意識提升的同時，將綠色發展的理念傳播給社會公眾。





ESG INDICATORS INDEX

ESG指標索引

Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
A1 Emissions A1 排放物	<p>General Disclosure</p> <p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.</p> <p>一般披露</p> <p>有關廢氣及溫室氣體排放、向水及土地的排污、有害及無害廢棄物的產生等的：</p> <p>(a) 政策；及</p> <p>(b) 遵守對發行人有重大影響的相關法律及規例的資料。</p> <p><i>Notes: ①Air emissions include NOx, SOx and other pollutants regulated under national laws and regulations.</i></p> <p><i>②Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.</i></p> <p><i>③Hazardous wastes are those defined by national regulations.</i></p> <p>註： ①廢氣排放包括氮氧化物、硫氧化物及其他受國家法律及規例規管的污染物。</p> <p>②溫室氣體包括二氧化碳、甲烷、氧化亞氮、氫氟碳化合物、全氟化碳及六氟化硫。</p> <p>③有害廢棄物指國家規例所界定者。</p>	167-169



Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
	A1.1 The types of emissions and respective emissions data. A1.1 排放物種類及相關排放數據。	170
	A1.2 Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). A1.2 溫室氣體總排放量 (以噸計算) 及 (如適用) 密度 (如以每產量單位、每項設施計算)。	170
	A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). A1.3 所產生有害廢棄物總量 (以噸計算) 及 (如適用) 密度 (如以每產量單位、每項設施計算)。	170
	A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). A1.4 所產生無害廢棄物總量 (以噸計算) 及 (如適用) 密度 (如以每產量單位、每項設施計算)。	170
	A1.5 Description of measures to mitigate emissions and results achieved. A1.5 描述減低排放量的措施及所得成果。	168-169
	A1.6 Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved. A1.6 描述處理有害及無害廢棄物的方法、減低產生量的措施及所得成果。	169



ESG Report (Continued)

環境、社會及管治報告（續）

Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
A2 Use of Resources A2資源使用	<p>General Disclosure</p> <p>Policies on the efficient use of resources, including energy, water and other raw materials.</p> <p>一般披露</p> <p>有效使用資源（包括能源、水及其他原材料）的政策。</p> <p><i>Note: Resources may be used in production, storage, transportation, buildings, electronic equipment, etc.</i></p> <p>註：資源可用於生產、儲存、運輸、樓宇、電子設備等。</p>	172
	<p>A2.1 Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000) and intensity (e.g. per unit of production volume, per facility).</p> <p>A2.1按類型劃分的直接及／或間接能源（如電、氣或油）總耗量（以千個千瓦時計算）及密度（如以每產量單位、每項設施計算）。</p>	176
	<p>A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).</p> <p>A2.2總耗水量及密度（如以每產量單位、每項設施計算）。</p>	175
	<p>A2.3 Description of energy use efficiency initiatives and results achieved.</p> <p>A2.3描述能源使用效益計劃及所得成果。</p>	173-174
	<p>A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.</p> <p>A2.4描述求取適用水源上可有任何問題，以及提升用水效益計劃及所得成果。</p>	174
	<p>A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.</p> <p>A2.5製成品所用包裝材料的總量（以噸計算）及（如適用）每生產單位佔量。</p>	<p>This indicator is not applicable to the Group's main business</p> <p>本集團主營業務不適用此指標</p>



Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
A3 The Environment and Natural Resources A3環境及天然資源	<p>General Disclosure</p> <p>Policies on minimizing the issuer's significant impact on the environment and natural resources.</p> <p>一般披露</p> <p>減低發行人對環境及天然資源造成重大影響的政策。</p>	159-162、177
	<p>A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.</p> <p>A3.1描述業務活動對環境及天然資源的重大影響及已採取管理有關影響的行動。</p>	159-163、177
B1 Employment B1僱傭	<p>General Disclosure</p> <p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.</p> <p>一般披露</p> <p>有關薪酬及解僱、招聘及晉升、工作時數、假期、平等機會、多元化、反歧視以及其他待遇及福利的：</p> <p>(a) 政策；及</p> <p>(b) 遵守對發行人有重大影響的相關法律及規例的資料。</p>	195-198
	<p>B1.1 Total workforce by gender, employment type, age group and geographical region.</p> <p>B1.1按性別、僱傭類型、年齡組別及地區劃分的僱員總數。</p>	196-197



ESG Report (Continued)

環境、社會及管治報告（續）

Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
B2 Health and Safety B2 健康與安全	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards. 一般披露 有關提供安全工作環境及保障僱員避免職業性危害的： (a) 政策，及； (b) 遵守對發行人有重大影響的相關法律及規例的資料。	182
	B2.1 Number and rate of work-related fatalities. B2.1因工作關係而死亡的人數及比率。	183
	B2.2 Lost days due to work injury. B2.2因工傷損失工作日數。	183
	B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored. B2.3描述所採納的職業健康與安全措施，以及相關執行及監察方法。	183-189



Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
B3 Development and Training B3發展及培訓	<p>General Disclosure</p> <p>Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.</p> <p>一般披露</p> <p>有關提升僱員履行工作職責的知識及技能的政策。描述培訓活動。</p> <p><i>Note: Training refers to vocational training. It may include internal and external training programs paid by the employer.</i></p> <p>註：培訓指職業培訓，可包括由僱主付費的內外部課程。</p>	199-200
B4 Labor Standards B4勞工準則	<p>General Disclosure</p> <p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labor.</p> <p>一般披露</p> <p>有關防止童工或強制勞工的：</p> <p>(a) 政策；及</p> <p>(b) 遵守對發行人有重大影響的相關法律及規例的資料。</p>	199



ESG Report (Continued)

環境、社會及管治報告（續）

Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
	<p>B4.1 Description of measures to review employment practices to avoid child and forced labor. B4.1描述檢討招聘慣例的措施以避免童工及強制勞工。</p>	199
	<p>B4.2 Description of steps taken to eliminate such practices when violation is discovered. B4.2描述在發現違規情況時消除有關情況所採取的步驟。</p>	No violation in the reporting period 報告期內未發生違規情況
B5 Supply Chain Management B5供應鏈管理	<p>General Disclosure Policies on managing environmental and social risks of the supply chain. 一般披露 管理供應鏈的環境及社會風險政策。</p>	202-205
	<p>B5.1 Number of suppliers by geographical region. B5.1按地區劃分的供應商數目。</p>	204
	<p>B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored. B5.2描述有關聘用供貨商的慣例，向其執行有關慣例的供應商數目、以及有關慣例的執行及監察方法。</p>	202-205
B6 Product Responsibility B6產品責任	<p>General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress. 一般披露 有關所提供產品和服務的健康與安全、廣告、標籤及私隱事宜以及補救方法的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。</p>	177-178、193



Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
	<p>B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons. B6.1 已售或已運送產品總數中因安全與健康理由而須回收的百分比。</p>	177
	<p>B6.2 Number of products and service related complaints received and how they are dealt with. B6.2 接獲關於產品及服務的投訴數目以及應對方法。</p>	192
	<p>B6.3 Description of practices relating to observing and protecting intellectual property rights. B6.3 描述與維護及保障知識產權有關的慣例。</p>	166
	<p>B6.4 Description of quality assurance process and recall procedures. B6.4 描述質量檢定過程及產品回收程序。</p>	178-179
	<p>B6.5 Description of consumer data protection and privacy policies, how they are implemented and monitored. B6.5 描述消費者資料保障及私隱政策，以及相關執行及監察方法。</p>	193



ESG Report (Continued)

環境、社會及管治報告（續）

Aspect 層面	Contents 內容	Locations of Disclosure 披露位置
B7 Anti- corruption B7反貪污	<p>General Disclosure</p> <p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.</p> <p>一般披露</p> <p>有關防止賄賂、勒索、欺詐及洗黑錢的：</p> <p>(a) 政策；及</p> <p>(b) 遵守對發行人有重大影響的相關法律及規例的資料。</p>	194
	<p>B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.</p> <p>B7.1於匯報期內對發行人或其僱員提出並已審結的貪污訴訟案件的數目及訴訟結果。</p>	194
	<p>B7.2 Description of preventive measures and whistleblowing procedures, how they are implemented and monitored.</p> <p>B7.2描述防範措施及舉報程序，以及相關執行及監察方法。</p>	194-195
B8 Community Investment B8社區投資	<p>General Disclosure</p> <p>Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.</p> <p>一般披露</p> <p>有關以社區參與來了解營運所在社區需要和確保其業務活動會考慮社區利益的政策。</p>	205
	<p>B8.1 Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).</p> <p>B8.1專注貢獻範疇（如教育、環境事宜、勞工需求、健康、文化、體育）。</p>	205-207



Deloitte.

德勤

**TO THE SHAREHOLDERS OF
CHINA BOQI ENVIRONMENTAL (HOLDING) CO., LTD.**
(incorporated in the Cayman Islands with limited liability)

致中國博奇環保（控股）有限公司股東
（於開曼群島註冊成立的有限公司）

OPINION

We have audited the consolidated financial statements of China Boqi Environmental (Holding) Co., Ltd. (the “Company”) and its subsidiaries (collectively referred to as the “Group”) set out on pages 222 to 376 which comprise the consolidated statement of financial position as at 31 December 2019, and the consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2019, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (“IFRSs”) issued by International Accounting Standards Board (“IASB”) and have been properly prepared in compliance with the disclosure requirements of the Hong Kong Companies Ordinance.

BASIS FOR OPINION

We conducted our audit in accordance with Hong Kong Standards on Auditing (“HKSA”) issued by the Hong Kong Institute of Certified Public Accountants (“HKICPA”). Our responsibilities under those standards are further described in the Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the HKICPA’s Code of Ethics for Professional Accountants (the “Code”), and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

KEY AUDIT MATTER

Key audit matter is the matter that, in our professional judgment, was of most significance in our audit of the consolidated financial statements for the current period. This matter was addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on this matter.

意見

我們已審核第222至376頁所載中國博奇環保（控股）有限公司（「貴公司」）及其附屬公司（統稱「貴集團」）之綜合財務報表，包括於2019年12月31日之綜合財務狀況表及截至該日止年度之綜合損益及其他全面收益表、綜合權益變動表及綜合現金流量表以及綜合財務報表附註，其中包括主要會計政策概要。

我們認為，綜合財務報表已按照國際會計準則委員會（「國際會計準則委員會」）頒佈的國際財務報告準則（「國際財務報告準則」）真實公平地反映貴集團於2019年12月31日之綜合財務狀況以及其於截至該日止年度之綜合財務表現及其綜合現金流量，並已按照香港公司條例之披露規定妥為編製。

意見基準

我們已按照香港會計師公會（「香港會計師公會」）頒佈的香港核數準則（「香港核數準則」）進行審核工作。我們按上述準則而履行的責任進一步詳述於本報告核數師對審核綜合財務報表的責任一節。我們根據香港會計師公會職業會計師道德守則（「該守則」）獨立於貴集團，並已根據該守則履行其他道德責任。我們相信，我們所取得的審核憑證就提出審核意見基礎而言屬充分及恰當。

關鍵審核事項

根據專業判斷，關鍵審核事項為我們審核本期間的綜合財務報表中最重要的事項。我們在審核整體綜合財務報表及就此達致意見時處理此等事項，而不會就此等事項單獨發表意見。



Independent Auditor's Report (Continued)

獨立核數師報告 (續)

KEY AUDIT MATTER (Continued)

Key audit matter

關鍵審核事項

Revenue from construction contracts
建造合約收益

We identified the revenue from construction contracts as a key audit matter due to the fact that the amount recognised is significant in the consolidated financial statements and the accounting treatments of which require significant estimations made by the directors of the Company ("Directors").

The Group's revenue from construction contracts is recognised over time based on the stage of completion of the contract, which is determined as the proportion of the costs incurred relative to the estimated total costs to complete the contract.

The Directors estimate both of the profit margin and contract cost at the beginning for each contract, revise the estimation of both profit margin and contract cost through regular review when the Directors consider there are changes in the assumptions throughout the contract period.

Details of the related key estimation uncertainty are set out in note 4 to the consolidated financial statements.

由於確認金額對該等綜合財務報表影響重大，且其會計處理方式涉及 貴公司董事（「董事」）的重大會計估計，因此我們將建造合約收益認為關鍵審核事項。

貴集團的建造合約收益乃根據合約完成階段確認，而合約完成階段按所產生的成本佔完成合約的估計總成本的比例釐定。

董事在初始對各合約的毛利率及合約成本作出估計，在董事認為整個合約期間的假設發生變化時，通過定期檢討來修訂有關毛利率及合約成本的估計。

相關主要估計不確定性詳情載於綜合財務報表附註4。

關鍵審核事項 (續)

How our audit addressed the key audit matter

我們的審計如何處理關鍵審核事項

Our procedures in relation to revenue from construction contracts included:

- Evaluating the design and operating effectiveness of controls relevant to our audit on budget preparation and revenue recognition of construction contracts;
- Recalculating the proportion of the costs incurred relative to the estimated total costs to complete the contracts on a sample basis;
- Evaluating the reasonableness of the key assumptions adopted by the Directors in determining the profit margin and total contract costs, cross checking to the corresponding construction contracts and the respective budgets;
- Performing tests of details relating to construction costs incurred during the year by tracing to supporting documentation on a sample basis; and
- Visiting selected construction sites on a sample basis to observe the existence of the construction work and interviewing the site project managers for the progress of the construction work.

我們針對建造合約收益執行的審核程序包括：

- 對與建築合約預算編製及收益確認的審核相關的設計及運作效率進行評價；
- 按抽樣基準重新計算所產生的成本佔完成合約的估計總成本之比例；
- 評估董事於釐定合約利潤及合約成本總額採用的主要假設之合理性、交叉檢查相應建築工程及相關預算；
- 按抽樣基準追蹤證明文件，對有關年內產生的建造成本的細節進行測試；及
- 抽樣考察施工選址，以觀察建造工程的存在，並與工地項目經理討論建造工程的進度。



OTHER INFORMATION

The Directors are responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated financial statements and our auditor's report thereon.

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

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

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

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

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

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

其他資料

董事對其他資料負責。其他資料包括載於年報的資料，惟不包括綜合財務報表及我們的核數師報告。

我們對綜合財務報表作出的意見並無涵蓋其他資料，而我們不會對其他資料發表任何形式的核證結論。

就審核綜合財務報表而言，我們的責任為閱讀其他資料，從而考慮其他資料是否與綜合財務報表或我們在審核過程中獲悉的資料存在重大不符，或似乎存在重大錯誤陳述的情況。倘若我們基於已進行的工作認為其他資料存在重大錯誤陳述，我們須報告有關事實。就此而言，我們沒有任何報告。

董事及治理層就綜合財務報表須承擔的責任

董事須遵照國際會計準則理事會頒佈之國際財務報告準則及香港公司條例之披露規定，負責編製作出真實公平反映之綜合財務報表，以及落實董事認為就編製綜合財務報表必要之有關內部監控，以使綜合財務報表並無重大錯誤陳述（不論因欺詐或錯誤）。

在編製綜合財務報表時，董事須負責評估貴集團持續經營的能力，並披露與持續經營有關的事項（如適用）。除非董事擬將貴集團清盤或停止營運，或除此之外並無其他實際可行的辦法，否則須採用以持續經營為基礎的會計法。

治理層負責監督貴集團的財務報告流程。



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

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

As part of an audit in accordance with HKSA's, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Directors.
- Conclude on the appropriateness of the Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

核數師對審核綜合財務報表的責任

我們的目標為合理確定綜合財務報表整體而言不會存在由於欺詐或錯誤而導致的重大錯誤陳述，並按照我們協定的委聘條款向全體股東出具載有我們意見的核數師報告，除此之外，我們的報告不作其他用途。我們概不就本報告的內容對任何其他人士負責或承擔任何責任。合理保證屬高水平的保證，惟根據香港核數準則進行的審計工作不能保證總能察覺所存在的重大錯誤陳述。錯誤陳述可因欺詐或錯誤產生，倘個別或整體在合理預期情況下可影響使用者根據此等綜合財務報表作出的經濟決定時，則被視為重大錯誤陳述。

在根據香港核數準則進行審計的過程中，我們運用專業判斷，保持專業懷疑態度。我們亦：

- 識別及評估由於欺詐或錯誤而導致綜合財務報表存在重大錯誤陳述的風險、設計及執行審計程序以應對該等風險，以及獲取充足和適當的審計憑證，作為我們的意見的基礎。由於欺詐可能涉及串謀、偽造、蓄意遺漏、虛假陳述或凌駕內部監控的情況，因此未能發現因欺詐而導致的重大錯誤陳述的風險高於未能發現因錯誤而導致的重大錯誤陳述的風險。
- 了解與審計相關的內部監控，以設計在有關情況下屬適當的審計程序，惟並非旨在對貴集團內部監控的有效性發表意見。
- 評估董事所採用會計政策的恰當性及作出會計估計和相關披露的合理性。
- 對董事採用持續經營會計基礎的恰當性作出結論，並根據所獲取的審計憑證，確定是否存在與事項或情況有關的重大不確定性，從而可能導致對貴集團的持續經營能力產生重大疑慮。倘我們認為存在重大不確定性，則有必要在核數師報告中提請使用者注意綜合財務報表中的相關披露。倘有關披露不足，則修訂我們的意見。我們的結論乃基於截至核數師報告日期止所取得的審計憑證。然而，未來事項或情況可能導致貴集團無法持續經營。



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

(Continued)

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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

The engagement partner on the audit resulting in the independent auditor's report is Chung Chin Cheung.

Deloitte Touche Tohmatsu
Certified Public Accountants
Hong Kong
27 April 2020

核數師對審核綜合財務報表的責任(續)

- 評估綜合財務報表的整體呈報方式、結構及內容，包括披露資料，以及綜合財務報表是否中肯反映相關交易及事項。
- 就貴集團內實體或業務活動的財務資料獲取充足及適當的審計憑證，以便對綜合財務報表發表意見。我們負責集團審計的方向、監督及執行。我們僅對我們的審計意見承擔責任。

我們與治理層就(其中包括)審計的計劃範圍、時間安排及重大審計發現溝通，該等發現包括我們在審計過程中識別的內部監控的任何重大缺失。

我們亦向治理層作出聲明，指出我們已符合有關獨立性的相關道德要求，並與彼等溝通可能被合理認為會影響我們的獨立性的所有關係及其他事宜，以及相關防範措施(如適用)。

從與治理層溝通的事項中，我們釐定對本期綜合財務報表的審計至關重要的事項，因而構成關鍵審計事項。我們在核數師報告中描述該等事項，除非法律或法規不允許公開披露該等事項，或在極端罕見的情況下，倘合理預期在我們的報告中溝通某事項造成的不利後果超出產生的公眾利益，則我們決定不應在報告中傳達該事項。

出具本獨立核數師報告的審計項目合夥人為鍾振翔。

德勤•關黃陳方會計師行
執業會計師
香港
2020年4月27日



Consolidated Statement of Profit or Loss and Other Comprehensive Income

綜合損益及其他全面收益表

For the year ended 31 December 2019
截至2019年12月31日止年度

		Notes 附註	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Revenue	收益	5	1,836,496	1,744,998
Cost of sales and services	銷售及服務成本		(1,529,974)	(1,427,140)
Gross profit	毛利		306,522	317,858
Other income and expense and other gains and losses	其他收入及開支以及其他收益和虧損	6	25,436	117,456
Selling and distribution expenses	銷售及分銷開支		(29,295)	(26,170)
Administrative expenses	行政開支		(88,776)	(98,485)
Research and development expenses	研發開支		(24,256)	(10,618)
Allowance of impairment losses on financial assets and contract assets	金融資產及合約資產的減值虧損撥備	7	(10,928)	(3,816)
Share of profit of associates	分佔聯營公司溢利	18	34,541	27,963
Finance costs	財務成本	8	(4,177)	(5,900)
Change in fair value of convertible ordinary shares	可轉換普通股之公允價值變動	33	-	133,541
Listing expenses	上市開支		-	(3,319)
Profit before tax	除稅前溢利		209,067	448,510
Income tax expense	所得稅開支	9	(26,453)	(55,691)
Profit for the year	年內溢利	10	182,614	392,819
Other comprehensive (expense) income for the year:	年內其他全面(開支)收益:			
<i>Items that will not be reclassified to profit or loss:</i>	不會重新分類至損益的項目:			
Fair value losses on investments in equity instrument at fair value through other comprehensive income	按公允價值計入其他全面收益的股本工具投資的公允價值虧損		(2,374)	(5,460)
Income tax relating to investments in equity instrument at fair value through other comprehensive income	有關按公允價值計入其他全面收益的股本工具投資的所得稅		171	819
			(2,203)	(4,641)
Total comprehensive income for the year	年內全面收益總額		180,411	388,178

Consolidated Statement of Profit or Loss and Other Comprehensive Income (Continued)

綜合損益及其他全面收益表（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

		Note 附註	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Profit for the year attributable to:	以下應佔年內溢利：			
Owners of the Company	本公司擁有人		182,537	394,359
Non-controlling interests	非控股權益		77	(1,540)
			182,614	392,819
Total comprehensive income for the year attributable to:	以下應佔年內全面收益總額：			
Owners of the Company	本公司擁有人		180,334	389,718
Non-controlling interests	非控股權益		77	(1,540)
			180,411	388,178
Earnings per share	每股盈利			
– Basic (RMB)	– 基本（人民幣）	12	0.18	0.44
– Diluted (RMB)	– 攤薄（人民幣）	12	0.18	0.27



Consolidated Statement of Financial Position

綜合財務狀況表

At 31 December 2019
於2019年12月31日

		Notes 附註	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Non-current assets	非流動資產			
Property, plant and equipment	物業、廠房及設備	14	377,753	88,330
Investment properties	投資物業	15	11,714	12,348
Intangible assets	無形資產	16	774,068	543,824
Receivables under service concession arrangement	服務特許經營安排項下的應收款項	17	356,429	367,029
Investment in associates	於聯營公司的投資	18	82,887	69,537
Equity instrument at fair value through other comprehensive income	按公允價值計入其他全面收益的股本工具	19	–	3,540
Amounts due from related parties	應收關連方款項	39	138,496	143,287
Deferred tax assets	遞延稅項資產	21	33,061	25,121
			1,774,408	1,253,016
Current assets	流動資產			
Receivables under service concession arrangement	服務特許經營安排項下的應收款項	17	20,201	12,526
Debt instruments at fair value through other comprehensive income	按公允價值計入其他全面收益的債務工具	20	197,933	70,205
Inventories	存貨	22	28,915	37,841
Equity instrument at fair value through profit or loss	按公允價值計入損益的股本工具		45,693	–
Contract assets	合約資產	23	346,602	204,289
Trade receivables	貿易應收款項	24	590,931	779,070
Prepayments, deposits and other receivables	預付款項、按金及其他應收款項	26	185,093	123,190
Amounts due from related parties	應收關連方款項	39	223,589	181,520
Pledged bank deposits	已抵押銀行存款	27	133,181	88,113
Bank balances and cash	銀行結餘及現金	28	450,506	780,480
			2,222,644	2,277,234

Consolidated Statement of Financial Position (Continued)

綜合財務狀況表（續）

At 31 December 2019
於2019年12月31日



		Notes 附註	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Current liabilities	流動負債			
Trade and notes payables	貿易應付款項及應付票據	29	1,021,730	885,535
Other payables, deposits received and accrued expenses	其他應付款項、已收按金 及應計開支	30	434,657	233,683
Contract liabilities	合約負債	23	102,390	115,651
Income tax payable	應繳所得稅		25,495	24,805
Borrowings	借款	31	107,468	53,483
Lease liabilities	租賃負債	32	8,892	–
Amounts due to related parties	應付關連方款項	39	11,209	23,901
			1,711,841	1,337,058
Net current assets	流動資產淨值		510,803	940,176
Total assets less current liabilities	資產總額減流動負債		2,285,211	2,193,192
Non-current liabilities	非流動負債			
Deferred tax liabilities	遞延稅項負債	21	10,873	8,018
Borrowings	借款	31	–	12,000
Lease liabilities	租賃負債	32	180	–
			11,053	20,018
Net assets	資產淨值		2,274,158	2,173,174



Consolidated Statement of Financial Position (Continued)

綜合財務狀況表（續）

At 31 December 2019
於2019年12月31日

		Note 附註	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Capital and reserves	股本及儲備			
Share capital	股本	35	67	67
Reserves	儲備		2,274,965	2,174,058
Equity attributable to owners of the Company	本公司擁有人應佔權益		2,275,032	2,174,125
Non-controlling interests	非控股權益		(874)	(951)
			2,274,158	2,173,174

The consolidated financial statements on pages 222 to 376 were approved and authorised for issue by the Board of Directors on 27 April 2020 and are signed on its behalf by:

載於第222至376頁之綜合財務報表已於2020年4月27日獲董事會批准及授權刊發，並由下列董事代表簽署：

Zhijun Zeng
曾之俊
DIRECTOR
董事

Liquan Cheng
程里全
DIRECTOR
董事

Consolidated Statement of Changes in Equity

綜合權益變動表

For the year ended 31 December 2019
截至2019年12月31日止年度



		Attributable to owners of the Company 本公司擁有人應佔										
		Share capital	Share premium	Treasury shares	Merger reserve	Other reserve	Statutory surplus reserve	Retained profits	Investment revaluation reserve	Non-controlling interests	Total equity	
		股本	股份溢價	庫存股份	合併儲備	其他儲備	法定盈餘	保留溢利	投資重估	小計	非控股權益	權益總額
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
						(note i) (附註i)	(note ii) (附註ii)				(note iii) (附註iii)	
At 1 January 2018	於2018年1月1日	32	(175,262)	(2)	371,500	(128,167)	174,593	497,859	5,605	746,158	589	746,747
Profit (loss) for the year	年內溢利(虧損)	-	-	-	-	-	-	394,359	-	394,359	(1,540)	392,819
Other comprehensive expense for the year, net of tax	年內其他全面開支， 經扣除稅項	-	-	-	-	-	-	-	(4,641)	(4,641)	-	(4,641)
Total comprehensive income (expense) for the year	年內全面收益 (開支)總額	-	-	-	-	-	-	394,359	(4,641)	389,718	(1,540)	388,178
Transfer to statutory surplus reserve	轉撥至法定盈餘儲備	-	-	-	-	-	30,726	(30,726)	-	-	-	-
Conversion of Class B and Class C convertible ordinary Shares into ordinary shares (note 35)	B類及C類可轉換普通股 轉換為普通股 (附註35)	21	621,567	-	-	-	-	-	-	621,588	-	621,588
Exercise of pre-IPO share awards	首次公開發售前 股份獎勵的行使	-	18,946	1	-	-	-	-	-	18,947	-	18,947
Forfeiture of pre-IPO share awards	沒收首次公開發售前 股份獎勵	-	74	-	-	-	-	-	-	74	-	74
Repurchase of ordinary shares	購回普通股	-	-	(1,799)	-	-	-	-	-	(1,799)	-	(1,799)
Share-based payment	以股份為基礎的付款	-	8,442	-	-	-	-	-	-	8,442	-	8,442
Issue of new shares upon listing (note 35)	上市後之新股份發行 (附註35)	14	390,983	-	-	-	-	-	-	390,997	-	390,997



Consolidated Statement of Changes in Equity (Continued)

綜合權益變動表（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

		Attributable to owners of the Company 本公司擁有人應佔										
		Share capital	Share premium	Treasury shares	Merger reserve	Other reserve	Statutory surplus reserve	Retained profits	Investment revaluation reserve	Sub-total	Non-controlling interests	Total equity
		股本	股份溢價賬	庫存股份	合併儲備	其他儲備	法定盈餘儲備	保留溢利	投資重估儲備	小計	非控股權益	權益總額
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
						(note i) (附註i)	(note ii) (附註ii)				(note iii) (附註iii)	
At 31 December 2018	於2018年12月31日	67	864,750	(1,800)	371,500	(128,167)	205,319	861,492	964	2,174,125	(951)	2,173,174
Profit for the year	年內溢利	-	-	-	-	-	-	182,537	-	182,537	77	182,614
Other comprehensive expense for the year, net of tax	年內其他全面開支，經扣除稅項	-	-	-	-	-	-	-	(2,203)	(2,203)	-	(2,203)
Total comprehensive income (expense) for the year	年內全面收益（開支）總額	-	-	-	-	-	-	182,537	(2,203)	180,334	77	180,411
Transfer to statutory surplus reserve	轉撥至法定盈餘儲備	-	-	-	-	-	38,515	(38,515)	-	-	-	-
Profit appropriation	溢利分配	-	-	-	-	-	-	(79,766)	-	(79,766)	-	(79,766)
Repurchase and cancellation of ordinary shares (note 35)	購回及註銷普通股（附註35）	-	(4,777)	1,799	-	-	-	-	-	(2,978)	-	(2,978)
Share-based payment	以股份為基礎的付款	-	3,317	-	-	-	-	-	-	3,317	-	3,317
Transfer to retained profits upon disposal of equity instrument at fair value through other comprehensive income	於出售按公允價值計入其他全面收益的股本工具後轉撥至保留溢利	-	-	-	-	-	-	(1,239)	1,239	-	-	-
At 31 December 2019	於2019年12月31日	67	863,290	(1)	371,500	(128,167)	243,834	924,509	-	2,275,032	(874)	2,274,158

Consolidated Statement of Changes in Equity (Continued)

綜合權益變動表（續）

For the year ended 31 December 2019
截至2019年12月31日止年度



Notes:

附註：

- (i) Other reserves mainly represent the distribution amounting to RMB130,310,000 made to the shareholder in the form of settlement of bank loan during the year ended 31 December 2016.
- (ii) In accordance with the Articles of Association of all subsidiaries established in the People's Republic of China (the "PRC"), the PRC subsidiaries are required to set aside 10% of their profit after tax as per statutory financial statements determined under the PRC laws and regulations for the statutory surplus reserve fund until the reserve reach 50% of their registered capital. Transfer to this reserve must be made before distributing dividends to equity owners of the subsidiaries. The statutory surplus reserve can be used to make up previous years' losses, expand the existing operations or convert into additional capital of the respective subsidiaries.
- (iii) The Group did not have material non-controlling interests during both years, and hence disclosure of material non-controlling interests is not made.
- (i) 其他儲備主要為於截至2016年12月31日止年度以結算銀行貸款形式向股東作出金額為人民幣130,310,000元的分派。
- (ii) 根據於中華人民共和國（「中國」）成立的所有附屬公司的組織章程細則，中國附屬公司須將法定財務報表所示根據中國法律及法規釐定的除稅後溢利10%撥往法定盈餘儲備金，直至儲備達到其註冊資本50%。於分派股息予附屬公司權益擁有人前須先向該儲備撥款。法定盈餘儲備可用於抵銷過往年度虧損、擴展現有營運或轉換為相關附屬公司的額外資本。
- (iii) 本集團於兩個年度均無重大非控股權益，因此並無作出重大非控股權益披露。



Consolidated Statement of Cash Flows

綜合現金流量表

For the year ended 31 December 2019
截至2019年12月31日止年度

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
OPERATING ACTIVITIES	經營活動		
Profit before tax	除稅前溢利	209,067	448,510
Adjustments for:	調整：		
Finance costs	財務成本	4,177	5,900
Change in fair value of convertible ordinary shares	可轉換普通股之公允價值變動	-	(133,541)
Share of profit of associates	分佔聯營公司溢利	(34,541)	(27,963)
Interest income	利息收入	(32,900)	(38,496)
Profit from construction service under concession operation	特許經營建造服務溢利	(4,439)	(4,209)
Depreciation of property, plant and equipment	物業、廠房及設備折舊	23,314	11,153
Depreciation of investment properties	投資物業折舊	634	634
Amortisation of intangible assets	無形資產攤銷	54,358	36,851
Allowance for trade receivables	貿易應收款項撥備	4,882	324
Allowance for other receivables	其他應收款項撥備	1,423	125
(Reversal of) allowance for contract assets	合約資產(撥備撥回)撥備	(3,003)	1,278
Allowance for amounts due from related parties	應收關連方款項撥備	7,427	2,244
Allowance for (reversal of) receivables under service concession arrangement	服務特許經營安排項下的 應收款項撥備(撥備撥回)	199	(155)
Loss on disposal of property, plant and equipment	出售物業、廠房及設備虧損	140	21
Share-based payment	以股份為基礎的付款	3,317	8,442
Loss on fair value changes of financial asset at FVTPL	按公允價值計入損益的金融 資產之公允價值變動虧損	(2,401)	-
Foreign exchange gain	匯兌收益	(1,786)	(35,445)

Consolidated Statement of Cash Flows (Continued)

綜合現金流量表（續）

For the year ended 31 December 2019
截至2019年12月31日止年度



		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Operating cash flows before movements in working capital	營運資金變動前經營現金流量	229,868	275,673
Decrease (increase) in inventories	存貨減少（增加）	8,926	(12,412)
(Increase) decrease in contract assets	合約資產（增加）減少	(139,310)	11,437
Decrease (increase) in trade receivables	貿易應收款項減少（增加）	183,257	(301,086)
Increase in prepayments, deposits and other receivables	預付款項、按金及其他應收款項增加	(63,701)	(28,548)
Decrease in receivable under service concession arrangement	服務特許經營安排的應收款項減少	2,726	25,011
Increase in debt instrument at fair value through other comprehensive income	按公允價值計入其他全面收益的債務工具增加	(166,212)	(4,368)
Increase in amounts due from related parties	應收關連方款項增加	(49,185)	(116,779)
Increase in trade and notes payables	貿易應付款項及應付票據增加	39,161	146,824
Increase in other payables, deposits received and accrued expenses	其他應付款項、已收按金及應計開支增加	133,722	70,786
(Decrease) increase in contract liabilities	合約負債（減少）增加	(13,261)	41,130
(Decrease) increase in amounts due to related parties	應付關連方款項（減少）增加	(12,692)	18,405
Cash generated from operations	經營所得現金	153,299	126,073
Income taxes paid	已付所得稅	(30,506)	(41,153)
NET CASH FROM OPERATING ACTIVITIES	經營活動所得現金淨額	122,793	84,920



Consolidated Statement of Cash Flows (Continued)

綜合現金流量表（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
INVESTING ACTIVITIES	投資活動		
Placement of pledged bank deposits	存入已抵押銀行存款	(291,886)	(86,824)
Withdrawal of pledged bank deposits	提取已抵押銀行存款	246,818	53,094
Interest received	已收利息	32,900	38,496
Dividend received from an associate	自聯營公司收取股息	25,171	28,524
Dividend received from equity investment	自股權投資收取股息	4,186	–
Purchase of property, plant and equipment	購買物業、廠房及設備	(131,491)	(32,541)
Proceeds from disposal of property, plant and equipment	出售物業、廠房及設備所得款項	1,129	58
Purchase of intangible assets and costs capitalised under service concession arrangements	購買無形資產及服務特許經營安排的資本化費用	(279,986)	(391,636)
Purchase of financial assets at FVTPL	購買按公允價值計入損益的金融資產	(47,478)	–
Proceed on disposal of equity instruments at FVTOCI	出售按公允價值計入其他全面收益的股本工具所得款項	996	–
Acquisition of investment in an associate	收購於聯營公司的投資	(3,980)	–
Advance to related parties	向關連方墊款	(311)	(2,507)
Repayment from related parties	關連方還款	4,791	17,815
NET CASH USED IN INVESTING ACTIVITIES	投資活動所用現金淨額	(439,141)	(375,521)

Consolidated Statement of Cash Flows (Continued)

綜合現金流量表（續）

For the year ended 31 December 2019
截至2019年12月31日止年度



		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
FINANCING ACTIVITIES	融資活動		
Dividend paid	已付股息	(79,766)	–
Repayment of bank borrowings	償還銀行借款	(15,000)	(100,000)
New bank borrowings raised	新籌得銀行借款	49,500	–
Repayments of lease liabilities	償還租賃負債	(8,959)	–
Proceeds from discounted notes receivables from banks	銀行已貼現應收票據 所得款項	45,968	38,483
Interest paid	已付利息	(4,177)	(5,900)
Proceeds from issue of shares	發行股份所得款項	–	418,860
Exercise of pre-IPO share awards	行使首次公開發售前股份獎勵	–	18,947
Repurchase of ordinary shares	購回普通股	(2,978)	(1,799)
Cash repaid by employees due to forfeiture of pre-IPO share awards	僱員因沒收首次公開發售 前股份獎勵所付現金	–	74
NET CASH (USED IN) FROM FINANCING ACTIVITIES	融資活動（所用）所得 現金淨額	(15,412)	368,665
NET (DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	現金及現金等價物 （減少）增加淨額	(331,760)	78,064
Effects of exchange rate changes	匯率變動的影響	1,786	13,062
CASH AND CASH EQUIVALENTS 1 JANUARY	於1月1日的現金及 現金等價物	780,480	689,354
CASH AND CASH EQUIVALENTS 31 DECEMBER	於12月31日的現金及 現金等價物	450,506	780,480



Notes to the Consolidated Financial Statements

綜合財務報表附註

For the year ended 31 December 2019
截至2019年12月31日止年度

1. GENERAL

China Boqi Environmental (Holding) Co., Ltd. (the “**Company**”) was incorporated as an exempted company with limited liability in the Cayman Islands on 30 January 2015 and its shares were listed on the Main Board of The Stock Exchange of Hong Kong Limited on 16 March 2018. The addresses of the registered office of the Company and principal place of business of the Company and its subsidiaries (collectively referred to as the “**Group**”) are disclosed in the section headed “Corporate Information” to the annual report.

The Company is an investment holding company. The principal activities of the Group are providing independent flue gas treatment service and environmental protection solution services by various business models, including environmental protection facility engineering, operation and maintenance and concession operation.

The consolidated financial statements are presented in Renminbi (“**RMB**”), which is also the functional currency of the Company.

1. 一般資料

中國博奇環保(控股)有限公司(「**本公司**」)於2015年1月30日在開曼群島註冊成立為獲豁免有限公司，其股份於2018年3月16日在香港聯合交易所有限公司主板上市。本公司的註冊辦事處及本公司及其附屬公司(統稱「**本集團**」)的主要營業地點的地址披露於年報公司資料一節。

本公司為投資控股公司。本集團的主要業務為透過多種業務模式(包括環保設施工程、運營與維護及特許經營)提供獨立煙氣處理服務及環保解決方案服務。

綜合財務報表以人民幣(「**人民幣**」)呈列，人民幣亦為本公司的功能貨幣。



2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”)

New and amendments to IFRSs that are mandatorily effective for the current year

The Group has applied the following new and amendments to IFRSs issued by the International Accounting Standards Board (“IASB”) for the first time in the current year:

IFRS 16	Leases
IFRIC 23	Uncertainty over Income Tax Treatments
Amendments to IFRS 3	Definition of a Business
Amendments to IFRS 9	Prepayment Features with Negative Compensation
Amendments to IAS 19	Plan Amendment, Curtailment or Settlement
Amendments to IAS 28	Long-term Interests in Associates and Joint Ventures
Amendments to IFRSs	Annual Improvements to IFRS Standards 2015–2017 Cycle

Except as described below, the application of the new and amendments to IFRSs in the current year has had no material impact on the Group’s financial performance and positions for the current and prior year and/or on the disclosures set out in these consolidated financial statements.

2. 應用新訂國際財務報告準則及其修訂本

本年度強制生效的新訂國際財務報告準則及其修訂本

本集團已於本年度首次應用由國際會計準則委員會(「國際會計準則委員會」)頒佈的新訂國際財務報告準則及其修訂本：

國際財務報告準則第16號	租賃
國際財務報告詮釋委員會－詮釋第23號	所得稅處理之不確定性
國際財務報告準則第3號(修訂本)	業務的定義
國際財務報告準則第9號(修訂本)	負補償的預付款項功能
國際會計準則第19號(修訂本)	計劃修訂、縮減或清償
國際會計準則第28號(修訂本)	於聯營公司及合營企業的長期權益
國際財務報告準則(修訂本)	國際財務報告準則2015年至2017年週期之年度改進

除下文所述者外，本年度首次應用新訂國際財務報告準則及其修訂本並無對本集團本年度及上一個年度的財務表現及狀況及／或該等綜合財務報表的披露產生重大影響。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs that are mandatorily effective for the current year (Continued)

(i) IFRS 16 Leases

The Group has applied IFRS 16 for the first time in the current year. IFRS 16 superseded IAS 17 *Leases* (“IAS 17”), and the related interpretations.

Definition of a lease

The Group has elected the practical expedient to apply IFRS 16 to contracts that were previously identified as leases applying IAS 17 and IFRIC 4 *Determining whether an Arrangement contains a Lease* and not apply this standard to contracts that were not previously identified as containing a lease. Therefore, the Group has not reassessed contracts which already existed prior to the date of initial application.

For contracts entered into or modified on or after 1 January 2019, the Group applies the definition of a lease in accordance with the requirements set out in IFRS 16 in assessing whether a contract contains a lease.

2. 應用新訂國際財務報告準則及其修訂本（續）

本年度強制生效的新訂國際財務報告準則及其修訂本（續）

(i) 國際財務報告準則第16號租賃

本集團於本年度首次應用國際財務報告準則第16號。國際財務報告準則第16號取代國際會計準則第17號租賃（「國際會計準則第17號」）及相關詮釋。

租賃定義

本集團已選擇可行權宜方法，就先前應用國際會計準則第17號及國際財務報告詮釋委員會－詮釋第4號「釐定安排是否包含租賃」識別為租賃的合約應用國際財務報告準則第16號，而並無對先前未識別為包含租賃的合約應用該準則。因此，本集團並無重新評估於首次應用日期前已存在的合約。

就於2019年1月1日或之後訂立或修訂的合約而言，本集團於評估合約是否包含租賃時，根據國際財務報告準則第16號所載的規定應用租賃定義。



2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs that are mandatorily effective for the current year (Continued)

(i) IFRS 16 Leases (Continued)

As a lessee

The Group has applied IFRS 16 retrospectively with the cumulative effect recognised at the date of initial application, 1 January 2019.

As at 1 January 2019, the Group recognised additional lease liabilities and right-of-use assets at amounts equal to the related lease liabilities by applying IFRS 16.C8(b)(ii) transition. Any difference at the date of initial application is recognised in the opening retained profits and comparative information has not been restated.

When applying the modified retrospective approach under IFRS 16 at transition, the Group elected not to recognise right-of-use assets and lease liabilities for leases with lease term ends within 12 months of the date of initial application, and applied a single discount rate to a portfolio of leases with a similar remaining terms for similar class of underlying assets in similar economic environment.

When recognising the lease liabilities for leases previously classified as operating leases, the Group has applied incremental borrowing rates of the relevant group entities at the date of initial application. The weighted average incremental borrowing rate applied is 7.97%.

2. 應用新訂國際財務報告準則及其修訂本(續)

本年度強制生效的新訂國際財務報告準則及其修訂本(續)

(i) 國際財務報告準則第16號租賃(續)

作為承租人

本集團已追溯應用國際財務報告準則第16號，並將首次應用該準則的累計影響於初始應用日期(即2019年1月1日)確認。

於2019年1月1日，本集團應用國際財務報告準則第16.C8(b)(ii)的過渡條文，按相等於相關租賃負債的金額確認額外租賃負債及使用權資產。於初始應用日期的任何差額在期初保留溢利內確認，而並無重列比較資料。

於過渡時應用國際財務報告準則第16號項下的經修訂追溯方法時，本集團選擇不就租期於首次應用日期起計12個月內結束的租賃確認使用權資產及租賃負債，並就類似經濟環境內相似類別相關資產的類似剩餘租期的租賃組合應用單一貼現率。

於確認先前分類為經營租賃的租賃的租賃負債時，本集團已應用於首次應用日期相關集團實體的增量借款利率。所應用的加權平均承租人增量借款利率為7.97%。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs that are mandatorily effective for the current year (Continued)

(i) IFRS 16 Leases (Continued)

		At 1 January 2019	
		於2019年 1月1日	
		<i>Note</i>	RMB'000
		<i>附註</i>	人民幣千元
Operating lease commitments disclosed as at 31 December 2018	於2018年12月31日披露的經營租賃承擔	38	20,430
Lease liabilities discounted at relevant incremental borrowing rates	以相關增量借款利率貼現的租賃負債		18,211
Less: Recognition exemption – low value assets	減：確認豁免 – 短期租賃		(180)
Lease liabilities relating to operating leases recognised upon application of IFRS 16 as at 1 January 2019	於2019年1月1日應用國際財務報告準則第16號後確認的經營租賃相關的租賃負債		18,031
Analysed as	分析為		
Current	流動		8,960
Non-current	非流動		9,071
			18,031

2. 應用新訂國際財務報告準則及其修訂本（續）

本年度強制生效的新訂國際財務報告準則及其修訂本（續）

(i) 國際財務報告準則第16號租賃（續）



2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs that are mandatorily effective for the current year (Continued)

(i) IFRS 16 Leases (Continued)

The following adjustments were made to the amounts recognised in the consolidated statement of financial position at 1 January 2019. Line items that were not affected by the changes have not been included.

2. 應用新訂國際財務報告準則及其修訂本(續)

本年度強制生效的新訂國際財務報告準則及其修訂本(續)

(i) 國際財務報告準則第16號租賃(續)

以下為對於2019年1月1日的綜合財務狀況表中確認的金額所作出的調整。未受變動影響的項目並不包括在內。

		Carrying amounts previously reported at 31 December 2018	Reclassification	Carrying amounts under IFRS 16 at 1 January 2019
		先前於2018年12月31日報告的賬面值 RMB'000 人民幣千元	重新分類 RMB'000 人民幣千元	國際財務報告準則第16號下於2019年1月1日的賬面值 RMB'000 人民幣千元
Non-current Assets	非流動資產			
Property, plant and equipment	物流、廠房及設備	88,330	18,406	106,736
Current Assets	流動資產			
Other receivable	其他應收款項	375	(375)	-
- rental deposit paid	- 已付租賃按金			
Current Liabilities	流動負債			
Lease liabilities	租賃負債	-	(8,960)	(8,960)
Non-current liabilities	非流動負債			
Lease liabilities	租賃負債	-	(9,071)	(9,071)



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs that are mandatorily effective for the current year (Continued)

(ii) Amendments to IFRS 3 Definition of a Business

The amendments clarify the definition of a business and provide additional guidance with the objective of assisting entities to determine whether a transaction should be accounted for as a business combination or an asset acquisition. Furthermore, an optional concentration test is introduced to permit a simplified assessment of whether an acquired set of activities and assets is not a business. The Group has early adopted the amendments for its acquisition transactions completed on or after 1 January 2019. The Group has performed the concentration test for the acquisition transaction during the current year and considered it is an acquisition of assets and accounted for such.

2. 應用新訂國際財務報告準則及其修訂本（續）

本年度強制生效的新訂國際財務報告準則及其修訂本（續）

(ii) 國際財務報告準則第3號業務的定義（修訂本）

該修訂本澄清業務的定義並為協助實體釐定一項交易應否入賬為業務合併或入賬為資產收購提供額外指引。此外，亦引入可選擇性集中測試，以允許對已收購的一組活動及資產是否並非一項業務進行簡化評估。本集團已就於2019年1月1日或之後完成的收購交易提早採納該修訂本。本集團已對本年度的收購交易進行了集中測試，並認為有關交易屬資產收購並就此入賬。



2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs in issue but not yet effective

The Group has not adopted the following new and amendments to IFRSs that have been issued but are not yet effective:

IFRS 17	Insurance Contracts ¹
Amendments to IFRS 10 and IAS 28	Sale or Contribution of Assets between an Investor and its Associate or Joint Venture ²
Amendments to IAS 1	Classification of Liabilities as Current or Non-current ⁴
Amendments to IAS 1 and IAS 8	Definition of Material ³
Amendments to IFRS 9, IAS 39 and IFRS 7	Interest Rate Benchmark Reform ³

¹ Effective for annual periods beginning on or after 1 January 2021

² Effective for annual periods beginning on or after a date to be determined

³ Effective for annual periods beginning on or after 1 January 2020

⁴ Effective for annual periods beginning on or after 1 January 2022

In addition to the above new and amendments to IFRSs, a revised Conceptual Framework for Financial Reporting was issued in 2018. Its consequential amendments, the *Amendments to References to the Conceptual Framework in IFRS Standards*, will be effective for annual periods beginning on or after 1 January 2020.

2. 應用新訂國際財務報告準則及其修訂本(續)

已頒佈但尚未生效的新訂國際財務報告準則及其修訂本

本集團並無採納以下已頒佈但尚未生效的新訂國際財務報告準則及其修訂本：

國際財務報告準則第17號	保險合約 ¹
國際財務報告準則第10號及國際會計準則第28號(修訂本)	投資者與其聯營公司或合營企業之間的資產出售或注資 ²
國際會計準則第1號(修訂本)	將負債分類為流動或非流動 ⁴
國際會計準則第1號及國際會計準則第8號(修訂本)	重要的定義 ³
國際財務報告準則第9號、國際會計準則第39號及國際財務報告準則第7號(修訂本)	利率基準改革 ³

¹ 於2021年1月1日或之後開始的年度期間生效

² 於有待確定日期或其後開始的年度期間生效

³ 於2020年1月1日或之後開始的年度期間生效

⁴ 於2022年1月1日或之後開始的年度期間生效

除上述新訂國際財務報告準則及其修訂本外，2018年頒佈了經修訂財務報告的概念框架。其相應修訂，即*國際財務報告準則的概念框架指引的修訂本*，將於2020年1月1日或之後開始的年度期間生效。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs in issue but not yet effective (Continued)

Except for the new and amendments to IFRSs mentioned below, the directors of the Company (“**Directors**”) anticipate that the application of all other new and amendments to IFRSs will have no material impact on the consolidated financial statements in the foreseeable future.

Amendments to IAS 1 and IAS 8 Definition of Material

The amendments provide refinements to the definition of material by including additional guidance and explanations in making materiality judgments. In particular, the amendments:

- include the concept of “obscuring” material information in which the effect is similar to omitting or misstating the information;
- replace threshold for materiality influencing users from “could influence” to “could reasonably be expected to influence”; and
- include the use of the phrase “primary users” rather than simply referring to “users” which was considered too broad when deciding what information to disclose in the financial statements.

The amendments also align the definition across all IFRSs and will be mandatorily effective for the Group’s annual period beginning on 1 January 2020. The application of the amendments is not expected to have significant impact on the financial position and performance of the Group but may affect the presentation and disclosures in the consolidated financial statements.

2. 應用新訂國際財務報告準則及其修訂本（續）

已頒佈但尚未生效的新訂國際財務報告準則及其修訂本（續）

除下文所述的新訂國際財務報告準則及其修訂本外，本公司董事（「**董事**」）預計應用所有其他新訂國際財務報告準則及其修訂本在可預見的將來不會對綜合財務報表產生重大影響。

國際會計準則第1號及國際會計準則第8號重要的定義（修訂本）

該等修訂計及作出重要性判斷的額外指引及解釋，藉此改良重要的定義。尤其是，該等修訂：

- 包含「掩蓋」重要資料的概念，其與遺漏或誤報資料有類似效果；
- 就影響使用者重要性的範圍以「可合理預期影響」取代「可影響」；及
- 包含使用詞組「主要使用者」，而非僅指「使用者」，於決定在財務報表內披露哪些資料時，該用語被視為過於廣義。

該等修訂與所有國際財務報告準則的定義一致，並將在本集團於2020年1月1日開始的年度期間強制生效。預期應用該等修訂不會對本集團的財務狀況及表現造成重大影響，惟可能影響於綜合財務報表內的呈列及披露。



2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs in issue but not yet effective (Continued)

Conceptual Framework for Financial Reporting 2018 (the “New Framework”) and the Amendments to References to the Conceptual Framework in IFRS Standards

The New Framework:

- reintroduces the terms stewardship and prudence;
- introduces a new asset definition that focuses on rights and a new liability definition that is likely to be broader than the definition it replaces, but does not change the distinction between a liability and an equity instrument;
- discusses historical cost and current value measures, and provides additional guidance on how to select a measurement basis for a particular asset or liability;
- states that the primary measure of financial performance is profit or loss, and that only in exceptional circumstances other comprehensive income will be used and only for income or expenses that arise from a change in the current value of an asset or liability; and
- discusses uncertainty, derecognition, unit of account, the reporting entity and combined financial statements.

2. 應用新訂國際財務報告準則及其修訂本（續）

已頒佈但尚未生效的新訂國際財務報告準則及其修訂本（續）

2018年財務報告概念框架（「新框架」）及提述國際財務報告準則概念框架的修訂

新框架：

- 重新引入管理及審慎此等術語；
- 引入著重權利的新資產定義以及範圍可能比所取代定義更廣的新負債定義，惟不會改變負債與股本工具之間的區別；
- 討論歷史成本及現值計量，並就如何為某一資產或負債選擇計量基準提供額外指引；
- 指出財務表現主要計量標準為損益，且於特殊情況下方會使用其他全面收益，且僅用於資產或負債現值產生變動所引致的收入或開支；及
- 討論不確定因素、終止確認、會計單位、報告實體及合併財務報表。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

2. APPLICATION OF NEW AND AMENDMENTS INTERNATIONAL FINANCIAL REPORTING STANDARDS (“IFRSs”) (Continued)

New and amendments to IFRSs in issue but not yet effective (Continued)

Conceptual Framework for Financial Reporting 2018 (the “New Framework”) and the Amendments to References to the Conceptual Framework in IFRS Standards (Continued)

Consequential amendments have been made so that references in certain IFRSs have been updated to the New Framework, whilst some IFRSs are still referred to the previous versions of the framework. These amendments are effective for annual periods beginning on or after 1 January 2020, with earlier application permitted. Other than specific standards which still refer to the previous versions of the framework, the Group will rely on the New Framework on its effective date in determining the accounting policies especially for transactions, events or conditions that are not otherwise dealt with under the accounting standards.

3. SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements have been prepared in accordance with IFRSs issued by IASB. In addition, the consolidated financial statements include applicable disclosures required by the Rules Governing the Listing of Securities on the Main Board of The Stock Exchange of Hong Kong Limited (“**Listing Rules**”) and by the Hong Kong Companies Ordinance.

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

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

2. 應用新訂國際財務報告準則及其修訂本（續）

已頒佈但尚未生效的新訂國際財務報告準則及其修訂本（續）

2018年財務報告概念框架（「新框架」）及提述國際財務報告準則概念框架的修訂（續）

相應修訂已作出，致使有關若干國際財務報告準則中的提述已更新至符合新框架，惟部分國際財務報告準則仍參考該框架的先前版本。該等修訂於2020年1月1日或之後開始的年度期間生效，並可提早應用。除仍參考該框架先前版本的特定準則外，本集團將於其生效日期按新框架決定會計政策，尤其是會計準則未有處理的交易、事件或條件。

3. 主要會計政策

綜合財務報表乃根據國際會計準則委員會頒佈的國際財務報告準則編製。此外，綜合財務報表包括香港聯合交易所有限公司主板證券上市規則（「**上市規則**」）及香港公司條例規定的適用披露。

綜合財務報表按歷史成本基準編製，惟若干金融工具則按各報告期末的公允價值計量。詳情載於下文的會計政策。

歷史成本通常基於換取商品及服務交易所付出代價的公允價值。



3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these consolidated financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of IFRS 2 *Share-based payment*, leasing transactions that are within the scope of IFRS 16 (since 1 January 2019) or IAS 17 (before application of IFRS 16), and measurements that have some similarities to fair value but are not fair value, such as net realisable value in IAS 2 *Inventories* or value in use in IAS 36 *Impairment of assets*.

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

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

The principal accounting policies are set out below.

3. 主要會計政策(續)

公允價值是於計量日期由市場參與人於有秩序交易中出售資產可收取或轉讓負債須支付的價格，而不論該價格是否直接可觀察或可使用其他估值技術估計。若市場參與人於計量日期對資產或負債定價時會考慮資產或負債的特點，則本集團於估計資產或負債的公允價值時會考慮該等特點。本綜合財務報表中作計量及／或披露用途的公允價值乃按此基準釐定，惟屬於國際財務報告準則第2號「以股份為基礎的付款」範圍內的以股份付款的交易、屬於國際會計準則第16號（自2019年1月1日起）或國際會計準則第17號（於應用國際財務報告準則第16號前）範圍內的租賃交易，以及與公允價值有部份相若地方但並非公允價值的計量，例如國際會計準則第2號「存貨」內的可變現淨額或國際會計準則第36號「資產減值」的使用價值除外。

此外，就財務申報而言，公允價值計量根據公允價值計量的輸入數據可觀察程度及輸入數據對公允價值計量整體的重要性分類為第一級、第二級或第三級，其載述如下：

- 第一級輸入數據是實體於計量日期可以取得的相同資產或負債於活躍市場之報價（未經調整）；
- 第二級輸入數據是就資產或負債直接或間接地可觀察之輸入數據（第一級內包括的報價除外）；及
- 第三級輸入數據是資產或負債的不可觀察輸入數據。

主要會計政策載於下文。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Basis of consolidation

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

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

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

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

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

3. 主要會計政策（續）

綜合基準

綜合財務報表包含本公司及其附屬公司之財務報表。本公司於以下情況擁有控制權：

- 可對投資對象行使權力；
- 因參與投資對象之營運而承受所得浮動回報之風險或享有浮動回報之權利；及
- 能行使權力影響回報。

倘有事實及情況顯示上述三個控制因素其中一個或以上有變，本公司會重新評估其是否控制投資對象。

本公司在取得附屬公司的控制權時開始將該附屬公司綜合入賬，並於失去該附屬公司之控制權時終止綜合入賬。具體而言，於年內所收購或出售的附屬公司的收入及開支由本公司取得控制權當日開始計入綜合損益及其他全面收益表，直至本公司不再控制該附屬公司當日為止。

損益及其他全面收益各組成部分乃歸屬予本公司擁有人及非控股權益。附屬公司的全面收益總額乃歸屬予本公司擁有人及非控股權益，即使此舉導致非控股權益出現虧絀結餘。



3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Basis of consolidation (Continued)

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

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

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

Acquisition of a subsidiary not constituting a business

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

3. 主要會計政策(續)

綜合基準(續)

在有需要時，將對附屬公司的財務報表作出調整，使其會計政策與本集團之會計政策相符。

所有與本集團成員公司之間的交易有關之集團內公司間資產及負債、權益、收入、開支以及現金流量均於綜合時全數抵銷。

附屬公司非控股權益自當中的本集團權益中獨立呈列，於清盤後相當於其持有人有權按比例分佔相關附屬公司資產淨值的現存所有權權益。

不構成業務的附屬公司收購事項

當本集團收購並不構成業務的資產組別時，本集團識別及確認所收購的個別可識別資產及所承擔的負債，方法為首先將購買價按各自的公允價值分配至金融資產，然後以其他可識別資產及負債於購買日期的相對公允價值為基準，將購買價的餘額分配至該等資產及負債。該項交易不會產生商譽或議價購買收益。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Revenue from contracts with customers

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

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

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

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

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

3. 主要會計政策（續）

客戶合約收益

本集團於履行履約責任時（或就此）確認收益，即當特定履約責任相關的貨品或服務的「控制權」轉讓予客戶時確認。

履約責任指可區分的單一貨品或服務（或組合貨品或服務）或大致相同的一系列可區分貨品或服務。

倘符合下列其中一項標準，按完全達成相關履約責任的進度隨時間轉移控制權及確認收益：

- 客戶於本集團履約的同時收取及消耗本集團履約所提供的利益；
- 本集團的履約創建或增強客戶於本集團履約時控制的資產；或
- 本集團的履約未創建對本集團具有替代用途的資產，而本集團有強制執行權收取至今已履約部分的款項。

否則，於客戶獲得可區分貨品或服務的控制權時確認收入。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers (Continued)

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

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

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

Contracts with multiple performance obligations (including allocation of transaction price)

For contracts that contain more than one performance obligations, including certain succession agreements that include "Build-Operate-Transfer" ("BOT") and "Transfer-Operate-Transfer" ("TOT") contracts, the Group allocates the transaction price to each performance obligation on a relative stand-alone selling price basis.

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

3. 主要會計政策(續)

客戶合約收益(續)

合約資產指本集團就換取本集團已向客戶轉讓的商品或服務而收取代價的權利(尚未成為無條件)。其按照國際財務報告準則第9號評估減值。相反,應收款項指本集團收取代價的無條件權利,即代價到期付款前僅需時間推移。

合約負債指本集團因已向客戶收取代價(或已到期代價金額)而須向客戶轉讓商品或服務的責任。

關於同一份合約的合約資產及合約負債按淨額基準入賬及呈列。

有多項履約責任(包括分配交易價)的合約

就載有多於一項履約責任的合約(包括若干特許權協議,其中包括「建設—經營—移交」(「BOT」)及「移交—經營—移交」(「TOT」)合約)而言,本集團按相對獨立的售價基準將交易價分配至各項履約責任。

各項履約責任相關的可區分貨品或服務的獨立售價於訂立合約時釐定,乃指本集團將向客戶獨立出售承諾貨品或服務的價格。倘獨立售價無法直接觀察所得,則本集團會採用適當技術對其作出估算,致令最終分配至任何履約責任的交易價反映本集團預期於向客戶轉交承諾貨品或服務時有權收取的代價金額。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers (Continued)

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

The progress towards complete satisfaction of a performance obligation is measured based on input method, which is to recognise revenue on the basis of the Group's efforts or inputs to the satisfaction of a performance obligation relative to the total expected inputs to the satisfaction of that performance obligation, that best depict the Group's performance in transferring control of goods or services.

Existence of significant financing component

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

For contracts where the Group transferred the construction services before payments from customers in which the Group adjusts for the promised amount of consideration for significant financing components, the Group applies a discount rate that would be reflected in a separate financing transaction between the Group and the customer at contract inception. The Group recognises interest income during the period between the payment from customers and the transfer of the associated services.

3. 主要會計政策（續）

客戶合約收益（續）

在一段時間內確認收益：計量完成履約責任的進度

完成履約責任的進度是以投入法為基礎計量，此方法乃基於本集團為完成履約責任而付出的努力或投入，相對於其為完成該項履約責任而預期所需的總投入，來確認收益，其最能反映本集團於轉讓貨品或服務控制權方面的履約情況。

存在重大融資部分

釐定交易價時，倘協定的付款時間（明示或暗示）為客戶或本集團提供有關向客戶轉讓貨品或服務的重大融資利益，本集團會就貨幣時間價值的影響調整承諾代價金額。於該等情況下，合約即包含重大融資部分。不論融資承諾是否明確列於合約或隱含在合約訂約方協定的付款條款中，均可能存在重大融資部分。

就本集團已就任何重大融資而調整已承諾的代價金額獲客戶付款之前經已轉移建造服務的合約而言，本集團應用將於本集團與客戶之間於合約開始的獨立融資交易中反映的貼現率。本集團確認獲客戶付款至轉移相關服務的期間內之利息收入。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers (Continued)

Existence of significant financing component (Continued)

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

Leases

Definition of a lease (upon application of IFRS 16 in accordance with transitions in note 2)

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

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

The Group as a lessee (upon application of IFRS 16 in accordance with transitions in note 2)

Allocation of consideration to components of a contract

For a contract that contains a lease component and one or more additional lease or non-lease components, the Group allocates the consideration in the contract to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components, including contract for acquisition of ownership interests of a property which includes both leasehold land and non-lease building components, unless such allocation cannot be made reliably.

3. 主要會計政策 (續)

客戶合約收益 (續)

存在重大融資部分 (續)

對於付款與轉讓相關貨品或服務相隔期間不足一年的合約，本集團應用可行權宜之計，而不就任何重大融資部分調整交易價。

租賃

租賃的定義 (根據附註2的過渡條文應用國際財務報告準則第16號後)

倘合約給予權利在一段時間內使用已識別資產以換取代價，則合約為或包含租賃。

就首次應用當日或之後訂立的合約而言，本集團於開始或修訂日期(如適用)根據國際財務報告準則第16號項下的定義評估合約是否為或包含租賃。該合約將不會被重新評估，除非該合約中的條款及條件隨後被改動。

本集團作為承租人 (根據附註2的過渡條文應用國際財務報告準則第16號後)

合約各組成部分的代價分配

就含有租賃組成部分以及一項或多項額外租賃或非租賃組成部分的合約而言，本集團將合約代價分配至各租賃組成部分，基準為租賃組成部分的相對獨立價格及非租賃組成部分的總獨立價格，其中包括收購當中包含租賃土地及非租賃樓宇組成部分的物業擁有權益之合約，除非不能可靠地作出有關分配則作別論。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases (Continued)

The Group as a lessee (upon application of IFRS 16 in accordance with transitions in note 2) (Continued)

Allocation of consideration to components of a contract (Continued)

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

Short-term leases and leases of low-value assets

The Group applies the recognition exemption for lease of low-value assets. Lease payments on leases of low-value assets are recognised as expense on a straight-line basis or another systematic basis over the lease term.

Right-of-use assets

The cost of right-of-use asset includes the amount of the initial measurement of the lease liability.

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

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

The Group presents right-of-use assets in “property, plant and equipment”, the same line item within which the corresponding underlying assets would be presented if they were owned.

3. 主要會計政策（續）

租賃（續）

本集團作為承租人（根據附註2的過渡條文應用國際財務報告準則第16號後）（續）

合約各組成部分的代價分配（續）

本集團亦採用可行權宜方法，不將非租賃組成部分從租賃組成部分區分開來，而是將租賃組成部分及任何相關非租賃組成部分作為一項單獨的租賃組成部分入賬。

短期租賃及低價值資產租賃

本集團對低價值資產的租賃應用確認豁免。低價值資產租賃的租賃付款於租期內以直線法或其他系統化的基準確認為開支。

使用權資產

使用權資產成本包括租賃負債初始計量金額。

使用權資產按成本減任何累計折舊及減值虧損計量，並就租賃負債的任何重新計量作出調整。

就本集團於租期結束時合理確定獲取相關租賃資產所有權的使用權資產而言，有關使用權資產自開始日期起至可使用年期結束期間計提折舊。在其他情況下，使用權資產於其估計可使用年期及租期（以較短者為準）內按直線法計提折舊。

本集團將使用權資產於「物業、廠房及設備」（即將呈列相應有關資產（倘擁有）的同一項目內）呈列。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases (Continued)

The Group as a lessee (upon application of IFRS 16 in accordance with transitions in note 2) (Continued)

Lease liabilities

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

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

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

The Group remeasures lease liabilities (and makes a corresponding adjustment to the related right-of-use assets) whenever the lease term has changed, in which case the related lease liability is remeasured by discounting the revised lease payments using a revised discount rate at the date of reassessment.

The Group as a lessee (prior to 1 January 2019)

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

Operating lease payments, including the cost of acquiring land held under operating leases, are recognised as an expense on a straight-line basis over the lease term. Contingent rentals arising under operating leases are recognised as an expense in the period in which they are incurred.

3. 主要會計政策(續)

租賃(續)

本集團作為承租人(根據附註2的過渡條文應用國際財務報告準則第16號後)(續)

租賃負債

於租賃開始日期，本集團按該日並未付的租賃付款現值確認並計量租賃負債。於計算租賃付款的現值時，倘租賃隱含的利率難以釐定，則本集團使用租賃開始日期的增量借款利率計算。

租賃付款包括固定付款(包括實質固定付款)減任何應收租賃獎勵。

於開始日期後，租賃負債按應計利息及租賃付款予以調整。

每當租期有所變動，本集團重新計量租賃負債(並就相關使用權資產作出相應調整)，而在此情況下，相關租賃負債透過使用重新評估日期的經修訂貼現率貼現經修訂租賃付款而重新計量。

本集團作為承租人(於2019年1月1日前)

倘租約條款將擁有權之絕大部分風險及回報轉歸承租人所有時，有關租約分類為融資租賃。所有其他租約分類為經營租賃。

經營租賃付款(包括收購根據經營租賃持有的土地之成本)以直線法於租賃期內確認為開支。經營租賃項下產生的或然租金於產生期間確認為支出。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Leases (Continued)

The Group as a lessor

Classification and measurement of leases

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

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

Taxation

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

3. 主要會計政策（續）

租賃（續）

本集團作為出租人

租賃的分類及計量

本集團為出租人的租賃乃分類為融資或經營租賃。每當租賃條款將相關資產擁有權附帶的絕大部分風險及回報轉移至承租人時，該合約分類為融資租賃。所有其他租賃分類為經營租賃。

經營租賃的租金收入於有關租賃協議的租期內以直線法於損益中確認。協商及安排所產生的最初直接成本加至租賃資產的賬面值，而該等成本於租期內以直線法確認為開支，惟根據公允價值模式計量的投資物業除外。

稅項

所得稅支出指現時應繳稅項及遞延稅項總和。現時應繳稅項乃按年內應課稅溢利計算。應課稅溢利因其他年度的應課稅或可扣稅收支項目及永遠不會課稅或扣稅的項目，而有別於除稅前溢利。本集團的即期稅項使用於報告期末前已頒佈或實質上已頒佈之稅率計算。



3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Taxation (Continued)

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

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

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

3. 主要會計政策 (續)

稅項 (續)

就綜合財務報表內資產及負債賬面值與計算應課稅溢利所採用相應稅基之暫時差額確認遞延稅項。遞延稅項負債通常確認所有應課稅暫時差額。一般情況下，所有可扣減暫時差額的遞延稅項資產，於該等可扣減暫時差額可用以對銷應課稅溢利時予以確認。如初次確認一項交易之其他資產及負債（業務合併除外）所產生之暫時差額不影響應課稅溢利或會計溢利，有關資產及負債不予確認。

對於與附屬公司及聯營公司之投資相關的應課稅暫時性差額會確認為遞延稅項負債，除非本集團能夠控制這些暫時性差額的轉回，而暫時性差額在可預見的將來很可能不會轉回。僅當很可能取得足夠的應課稅溢利以抵扣此類投資及權益相關的可抵扣暫時性差額，並且暫時性差額在可預見的未來將轉回時，才確認該可抵扣暫時性差額所產生的遞延稅項資產。

遞延稅項資產之賬面值在每一報告期末進行檢討，並於並無足夠應課稅溢利可用以收回所有或部分資產時作出相應扣減。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Taxation (Continued)

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

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

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

Current and deferred tax are recognised in profit or loss, except when they relate to items that are recognised in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognised in other comprehensive income or directly in equity respectively.

Foreign currencies

In preparing the financial statements of each individual group entity, transactions in currencies other than the entity's functional currency (foreign currencies) are recognised at the rates of exchanges prevailing on the dates of the transactions. At the end of the reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing on that date. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated. Exchange differences arising on the settlement of monetary items, and on the retranslation of monetary items, are recognised in profit or loss in the period in which they arise.

3. 主要會計政策（續）

稅項（續）

遞延稅項資產和負債，以報告期末已執行或實質上已執行的稅率（和稅法）為基礎，按預期清償該負債或實現該資產當期應用的稅率計量。

遞延稅項負債和資產的計量，反映本集團在報告期末預期收回或清償其資產和負債賬面金額的方式所導致的納稅後果。

當有法定可執行權利將當期稅項資產抵銷當期稅項負債時，以及當它們與同一稅務機關對同一應課稅實體徵收的所得稅有關時，遞延所得稅資產及負債予以抵銷。

當期和遞延稅項於損益中確認，除非其與於其他全面收益確認或直接於權益確認的項目相關（於此情況下，當期和遞延稅項亦分別於其他全面收益確認或直接於權益確認）。

外幣

編製個別集團實體的財務報表時，以該實體的功能貨幣以外之貨幣（即外幣）所作的交易按交易當日適用的匯率確認。於各報告期末，以外幣列值之貨幣項目按有關日期現行之匯率予以重新換算。按歷史成本計量以外幣列值之非貨幣項目不予重新換算。結算貨幣項目及重新換算貨幣項目所產生之匯兌差額於彼等產生期間於損益中確認。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Property, plant and equipment

Property, plant and equipment held for use in the supply of services, or held for administrative purposes other than construction in progress as described below, are stated in the consolidated statement of financial position at cost less accumulated depreciation and accumulated impairment losses, if any.

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

When the Group makes payments for ownership interests of properties which includes both leasehold land and building elements, the entire consideration is allocated between the leasehold land and the building elements in proportion to the relative fair values at initial recognition. To the extent the allocation of the relevant payments can be made reliably, interest in leasehold land is presented as "property, plant and equipment" (upon application of IFRS 16) or "prepaid lease payments" (before application of IFRS 16) in the consolidated statement of financial position. When the consideration cannot be allocated reliably between non-lease building element and undivided interest in the underlying leasehold land, the entire properties are classified as property, plant and equipment.

3. 主要會計政策(續)

物業、廠房及設備

持作用於提供服務或行政用途(不包括在建工程)的物業、廠房及設備為於綜合財務狀況表按成本減累計折舊及任何累計減值虧損(如有)列賬。

仍在興建用作生產、供應或行政用途的樓宇按成本減任何已確認減值虧損列賬。成本包括使資產達到能夠按照管理層擬定的方式開展經營所必要的位置及條件而直接產生的任何成本,以及(就限定資產而言)根據本集團的會計政策資本化的借款成本。該等資產按與其他物業資產相同的基準,於該等資產可投入作擬定用途時開始計提折舊。

當本集團就於物業的擁有權權益(包括租賃土地及樓宇成分)付款時,全部代價於租賃土地及樓宇成分之間按初始確認時的相對公允價值的比例分配。倘相關付款能可靠分配,則租賃土地的權益於綜合財務狀況表內呈列為「物業、廠房及設備」(於應用國際財務報告準則第16號後)或「預付租賃付款」(於應用國際財務報告準則第16號前)。當代價無法在相關租賃土地的非租賃樓宇成分及未分割權益之間可靠分配時,整項物業分類為物業、廠房及設備。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Property, plant and equipment (Continued)

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

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

Investment properties

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

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

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

3. 主要會計政策（續）

物業、廠房及設備（續）

物業、廠房及設備項目（在建工程除外）的折舊乃在其估計可使用年期內扣除剩餘價值後使用直線法確認以撇銷其成本。估計可使用年期、剩餘價值及折舊方法於各報告期末檢討，任何估計變動的影響按不予追溯基準入賬。

物業、廠房及設備項目於出售時或當繼續使用該資產預期不會產生任何日後經濟利益時終止確認。出售或報廢物業、廠房及設備項目產生的損益按出售所得款項與該資產的賬面金額的差額釐定，並於損益中確認。

投資物業

投資物業指持作賺取租金及／或待資本增值之物業。

投資物業初步按成本（包括任何直接應佔開支）計量。於初步確認後，投資物業乃按成本減其後累計折舊及任何累計減值虧損列賬。投資物業按其估計可使用年期，經考慮其估計殘值以直線法確認折舊，以撇銷成本。

投資物業乃於出售時或在投資物業永久不再使用或預期出售物業不會產生未來經濟利益時終止確認。終止確認該資產時產生之任何損益（按出售所得款項淨額與該資產之賬面值之差額計算）計入該項目終止確認期間之損益內。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Investment in associates

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

The results and assets and liabilities of associates are incorporated in the consolidated financial statements using the equity method of accounting, except when the investment, or a portion thereof, is classified as held for sale, in which case it is accounted for in accordance with IFRS 5 *Non-current assets held for sale and discontinued operations*. The financial statements of associates used for equity accounting purposes are prepared using uniform accounting policies as those of the Group for like transactions and events in similar circumstances. Appropriate adjustments have been made to conform the associate's accounting policies to those of the Group. Under the equity method, an investment in an associate is initially recognised in the consolidated statement of financial position at cost and adjusted thereafter to recognise the Group's share of the profit or loss and other comprehensive income of the associate. When the Group's share of losses of an associate exceeds the Group's interest in that associate (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate), the Group discontinues recognising its share of further losses. Additional losses are recognised only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate.

3. 主要會計政策(續)

於聯營公司的投資

聯營公司是指本集團有重大影響力的實體。重大影響力指有權參與被投資方的財務及經營政策決定但非控制或共同控制該等政策。

聯營公司的業績與資產及負債，乃採用權益會計法列入綜合財務報表，惟倘該項投資(或其中部份)被分類為持作出售，則會根據國際財務報告準則第5號「持作出售的非流動資產及已終止經營業務」入賬。擬作權益會計用途的聯營公司財務報表按與本集團於類似情況下就同類交易及事件採用的相同會計政策編製。為符合本集團的會計政策，聯營公司的會計政策已作適當調整。根據權益會計法，於聯營公司的投資初步於綜合財務狀況表按成本確認，並於其後就確認本集團應佔該聯營公司的溢利或虧損及其他全面收入而作出調整。當本集團應佔一間聯營公司的虧損超出本集團於該聯營公司的權益時(包括實質上構成本集團於聯營公司的投資淨值一部份的任何長期權益)，本集團會終止確認其應佔的進一步虧損。額外虧損僅於本集團已產生法定或推定責任或代表該聯營公司付款時方予確認。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Investment in associates (Continued)

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

The Group assesses whether there is an objective evidence that the interest in an associate may be impaired. When any objective evidence exists, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with IAS 36 as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs of disposal) with its carrying amount. Any impairment loss recognised forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognised in accordance with IAS 36 to the extent that the recoverable amount of the investment subsequently increases.

Intangible assets

Intangible assets with finite useful lives, other than service concession arrangements as set out in "Service concession arrangements" below, that are acquired separately are carried at cost less accumulated amortisation and accumulated impairment losses. Amortisation is recognised on a straight-line basis over their estimated useful lives.

3. 主要會計政策（續）

於聯營公司的投資（續）

於聯營公司的投資自被投資方成為聯營公司當日起以權益法入賬。收購於聯營公司的投資時，任何投資成本超出本集團應佔被投資方的可識別資產及負債公平淨值的差額，均確認為商譽，並計入該項投資的賬面值內。本集團應佔可識別資產及負債的公平淨值超出投資成本的任何數額經重新評估後，即時於收購該項投資的期間於損益內確認。

本集團會評估是否具客觀證據證明於聯營公司的權益可能減值。倘若存在任何客觀證據，投資的全部賬面值（包括商譽）將根據國際會計準則第36號以單一資產方式進行減值測試，方法是比較其可收回金額（即使用價值與公允價值減出售成本的較高者）與其賬面值。任何已確認減值虧損均構成該項投資賬面值的一部份。有關減值虧損的任何撥回乃於該項投資的可收回金額其後增加時根據國際會計準則第36號確認。

無形資產

單獨收購及有限定可使用年期之無形資產（不包括下文「服務特許經營安排」所載的服務特許經營安排）按成本減累計攤銷及累計減值虧損列賬。攤銷於其估計可使用年期以直線法確認。



3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Intangible assets (Continued)

Intangible assets acquired in a business combination are recognised separately from goodwill and are initially recognised at their fair value at the acquisition date which is regarded as their cost.

Subsequent to initial recognition, intangible assets acquired in a business combination with finite useful lives are reported at revalued amounts, being their fair value at the date of the revaluation less subsequent accumulated amortisation and any accumulated impairment losses, on the same basis as intangible assets that are acquired separately. Intangible assets acquired in a business combination with indefinite useful lives are carried at cost less any subsequent accumulated impairment losses.

An intangible asset is derecognised on disposal, or when no future economic benefits are expected from use or disposal. Gains or losses arising from derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognised in profit or loss in the period when the asset is derecognised.

3. 主要會計政策 (續)

無形資產 (續)

在業務合併中收購的無形資產與商譽分開確認，並按其於收購日期的公允價值(被視為其成本)初步確認。

於初始確認後，於業務合併中收購的具有有限使用年期的無形資產按重估金額(即重估日期的公允價值減其後累計攤銷及任何累計減值虧損)，並按與單獨收購的無形資產相同之基準列報。於業務合併中收購的具無限可使用年期的無形資產按成本減任何其後累計減值虧損列賬。

無形資產於出售時或預期其使用或出售不會產生任何日後經濟利益時終止確認。終止確認無形資產所產生的損益按資產的出售所得款項淨額與賬面金額的差額計算，並於終止確認資產期間於損益中確認。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Intangible assets (Continued)

When the Group has a right to charge for usage of service concession infrastructure (as a consideration for providing construction services in a service concession arrangement), it recognises an intangible asset at fair value upon initial recognition. The Group's intangible assets represent operating concessions and are stated at cost less accumulated amortisation and accumulated impairment losses, if any. Operating concessions are amortised over the tenure of the service concession arrangements and after taking into account of their estimated residual value, using straight-line method. The residual value is estimated by the Directors for the amount that could be recovered when the relevant PRC governmental bureau is obliged to pay the Group for the transfer of infrastructure (which is built by the Group for obtaining the operating concession) at a price appraised by valuer upon the expiry of the service concession arrangements (if not extendable by the relevant PRC governmental bureau) in accordance with the relevant service concession agreements. The estimated useful life, residual value and amortisation method are reviewed at the end of the reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Further details of operating concessions are set out in "Service concession arrangements" below.

3. 主要會計政策（續）

無形資產（續）

當本集團有權就使用基建經營權收費（作為服務特許經營安排下建造服務的代價），則在初始確認無形資產時會以公允價值計量。本集團的無形資產為特許經營權，以成本減累計攤銷及累計減值虧損（如有）列賬。特許經營權於服務特許經營安排的年期內使用直線法，並考慮到其估計剩餘價值進行攤銷。當中國有關政府當局須要就基礎設施（由本集團為獲取特許經營權而興建）的轉移，根據相關服務特許經營協議按服務特許經營安排屆滿時（倘不獲中國有關政府當局延期）由估值師評估的價值向本集團付款時，則剩餘價值由董事就可收回的金額作估計。估計可使用年期、剩餘價值及攤銷方法於報告期末作檢討，任何估計變動的影響按往後基準入賬。特許經營權的進一步詳情載於下文「服務特許經營安排」。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Impairment of tangible and intangible assets

At the end of the reporting period, the Group reviews the carrying amounts of its property, plant and equipment, right-of-use assets and intangible assets with finite useful lives to determine whether there is any indication that these assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the relevant asset is estimated in order to determine the extent of the impairment loss (if any). Intangible assets not yet available for use are tested for impairment at least annually, and whenever there is an indication that they may be impaired.

The recoverable amount of property, plant and equipment, right-of-use assets and intangible assets are estimated individually. When it is not possible to estimate the recoverable amount individually, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

In addition, the Group assesses whether there is indication that corporate assets may be impaired. If such indication exists, corporate assets are also allocated to individual cash-generating units, when a reasonable and consistent basis of allocation can be identified, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Recoverable amount is the higher of fair value less costs of disposal and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset (or a cash-generating unit) for which the estimates of future cash flows have not been adjusted.

3. 主要會計政策 (續)

有形及無形資產減值

於各報告期末，本集團審查其物業、廠房及設備、使用權資產及具有有限使用年期的無形資產的賬面金額，以釐定是否存在該等資產遭受減值虧損的任何跡象。倘存在任何該等跡象，則會估計相關資產的可收回金額，以釐定減值虧損(如有)的程度。尚未可供使用的無形資產至少每年作減值測試，且每當有跡象顯示可能減值時作減值測試。

物業、廠房及設備、使用權資產及無形資產個別估計可收回金額。倘無法估計個別可收回金額，則本集團估計資產所屬現金產生單位的可收回金額。

此外，本集團對是否有跡象顯示公司資產可能出現減值進行評估。倘存在有關跡象，於可識別合理一致的分配基準時，公司資產亦會分配至個別現金產生單位，否則有關資產會分配至可識別合理一致分配基準的現金產生單位的最小組別。

可收回金額為公允價值減出售成本與使用價值兩者中的較高者。於評估使用價值時，估計未來現金流量使用稅前貼現率折現至其現值，而稅前貼現率反映現時市場對貨幣時間價值的評估及資產(或現金產生單位)的特定風險(未來現金流量估計並無作出調整)。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Impairment of tangible and intangible assets

(Continued)

If the recoverable amount of an asset (or a cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or a cash-generating unit) is reduced to its recoverable amount. For corporate assets or portion of corporate assets which cannot be allocated on a reasonable and consistent basis to a cash-generating unit, the Group compares the carrying amount of a group of cash-generating units, including the carrying amounts of the corporate assets or portion of corporate assets allocated to that group of cash-generating units, with the recoverable amount of the group of cash-generating units. In allocating the impairment loss, the impairment loss is allocated first to reduce the carrying amount of any goodwill (if applicable) and then to the other assets on a pro-rata basis based on the carrying amount of each asset in the unit or the group of cash-generating units. The carrying amount of an asset is not reduced below the highest of its fair value less costs of disposal (if measurable), its value in use (if determinable) and zero. The amount of the impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other assets of the unit or the group of cash-generating units. An impairment loss is recognised immediately in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or cash-generating unit or a group of cash-generating units) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or a cash-generating unit or a group of cash-generating units) in prior years. A reversal of an impairment loss is recognised immediately in profit or loss.

3. 主要會計政策（續）

有形及無形資產減值（續）

如資產（或現金產生單位）的可收回金額估計少於其賬面金額，該資產（或現金產生單位）的賬面金額減至其可收回金額。就未能按合理一致基準分配至現金產生單位的公司資產或一部分公司資產而言，本集團會將一組現金產生單位的賬面值（包括分配至該現金產生單位組別的公司資產或一部分公司資產的賬面值）與該組現金產生單位的可收回款項作比較。於分配減值虧損時，首先分配減值虧損以減少任何商譽的賬面值（如適用），然後按比例根據該單位或現金產生單位組別各資產的賬面值分配至其他資產。資產賬面值不得減少至低於其公允價值減出售成本（如可計量）、其使用價值（如可計量）及零之中的最高值。已另行分配至資產的減值虧損數額按比例分配至該單位或現金產生單位組別的其他資產。減值虧損即時於損益中確認。

如減值虧損隨後撥回，該資產（或現金產生單位或現金產生單位組別）的賬面金額則增至其經修訂的估計可收回金額，惟增加的賬面金額不得超過倘於過往年度並無就該資產（或現金產生單位或現金產生單位組別）確認減值虧損而本應釐定的賬面金額。撥回的減值虧損即時於損益中確認。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Research and development costs

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

When no internally-generated intangible asset can be recognised, development expenditure is recognised in profit or loss in the period in which it is incurred.

Service concession arrangements

The Group has entered into a number of service concession arrangements with certain owners of the power plants (the “Grantors”).

Under these service concession arrangements:

- the Grantors control or regulate the services the Group must provide with the infrastructure, to whom it must provide them, and at what price; and
- the Grantors control, through ownership, beneficial entitlement or otherwise, any significant residual interest in the infrastructure at the end of the term of the arrangements, or the infrastructure is used for its entire useful life under the arrangements, or both the Group’s practical ability to sell or pledge the infrastructure is restricted and continuing right of use of the infrastructure is given to the Grantors throughout the period of the arrangements.

3. 主要會計政策（續）

研發成本

研發活動開支於其產生期間確認為開支。

倘並無確認內部產生的無形資產，研發開支將於其產生期間於損益中確認。

服務特許經營安排

本集團已與若干發電廠擁有人（「授予人」）訂立多項服務特許經營安排。

根據該等服務特許經營安排：

- 授予人控制或監管本集團需提供基建的服務、被提供服務的人士及價格；及
- 於安排期限末，授予人透過擁有權、實際權利或其他方式控制基建的任何重大剩餘權益，或基建根據安排於整個可用年限內使用，或於整個安排期間本集團出售或抵押基建的實際能力受到限制及使用基建的持續權利給予授予人。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Service concession arrangements (Continued)

Consideration given to the Grantor

During construction stage, a contract asset is recognised to the extent that the Group has a future unconditional right to receive cash or another financial asset from the Grantors for the consideration paid and payable by the Group to the Grantors upon completion of the construction of the relevant infrastructure, that is a condition for granting such unconditional right. The contract asset is transferred to financial asset (receivable under a service concession arrangement) when the construction of the relevant infrastructure is completed. The Group has unconditional right to receive cash if the Grantors contractually guarantee to pay the Group specified or determinable amounts or the shortfall (the “**Guarantee**”), if any, between amounts received from the users of the public service and specified or determinable amounts.

The financial assets (receivables under service concession arrangements) are accounted for in accordance with the policy set out for financial assets at amortised cost below. An intangible asset (operating concession) is recognised to the extent that the Group receives a right to charge users of public service, which is not an unconditional right to receive cash because the amounts are contingent on the extent that the public use, and is accounted for in accordance with the policy set out for “Intangible assets” above.

If the Group is paid for the consideration partly by a financial asset and partly by an intangible asset, then each component of the consideration is accounted for separately and is recognised initially at the fair value of the consideration.

3. 主要會計政策（續）

服務特許經營安排（續）

給予授予人的代價

於建造階段所確認的合約資產，以本集團於相關基礎設施建造完成時有未來的無條件權利向授予人收取現金或其他金融資產作為本集團支付及應付授予人的代價為限，而此乃授予該無條件權利的條件。當相關基礎設施建造完成時，合約資產轉撥至金融資產（服務特許經營安排下應收）。倘授予人以合約方式保證向本集團支付指定或待定金額，或授予人已收用戶有關公共服務的款項與指定或待定金額兩者間的差額（如有）（「**保證**」），則本集團擁有無條件權利收取現金。

金融資產（服務特許經營安排下的應收款項）根據下文所載有關按攤銷成本計量的金融資產的政策列賬。無形資產（特許經營權）於本集團取得向使用者收取公共服務費用的權利時確認，惟該權利並非收取現金的無條件權利，因為有關金額須以公共服務將獲提供為條件，並按上文就「無形資產」所載的政策列賬。

倘本集團部分以金融資產及部分以無形資產來支付代價，則代價的各組成部分獨立入賬，並按代價的公允價值初始確認。



3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Inventories

Inventories mainly include supplies and spare parts in relation to the Group's environment protection facility and operation and maintenance services are stated at the lower of cost and net realisable value. Cost of inventories are calculated using first-in-first-out method. Net realisable value represents the estimated selling price for inventories less all estimated costs of completion and costs necessary to make the sale.

Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group will be required to settle that obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material).

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognised as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

3. 主要會計政策 (續)

存貨

存貨(主要包括有關本集團環保設施及運營與維護服務的材料及零部件)按成本及可變現淨值中較低者入賬。存貨成本按先進先出法計算。可變現淨值指存貨的估計售價減所有估計完成成本及作出銷售的所需成本。

撥備

倘本集團因過往事件而承擔現有責任(法定或推定)，而本集團可能須履行該項責任，且有關責任涉及的金額能可靠估計時則會確認撥備。

確認為撥備的金額乃於報告期末履行現時責任所需代價的最佳估計，當中已考慮與責任有關的風險及不確定因素。倘撥備以估計履行現時責任的現金流量計量時，其賬面值為該等現金流量的現值(倘貨幣時間價值的影響屬重大時)。

當結算撥備所需的部分或所有經濟利益預期可從第三方收回時，若基本確定將會收取補償且能夠可靠計量應收款項的金額，則將應收款項確認為資產。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Government grants

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

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

Retirement benefit schemes

The Group's contributions to the defined contribution retirement schemes are expensed as incurred.

Financial instruments

Financial assets and financial liabilities are recognised when a group entity becomes a party to the contractual provisions of the instrument.

Financial assets and financial liabilities are initially measured at fair value except for trade receivables arising from contracts with customers which are initially measured in accordance with IFRS 15. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognised immediately in profit or loss.

3. 主要會計政策（續）

政府補助

直至合理確定本集團將會符合政府補助所附的條件及將會收取補助時方確認政府補助。

政府補助乃於本集團確認補助擬補償的相關成本開支期間，有系統地於損益內確認。具體而言，政府補助的首要條件為，本集團應購置、興建或以其他方式獲得非流動資產，並在綜合財務狀況表內確認為遞延收入及於有關資產的使用年期有系統地及按合理基準轉撥至損益。

退休僱員計劃

本集團向定額供款退休計劃的供款於產生時支銷。

金融工具

金融資產及金融負債乃當集團實體成為工具合同條文之訂約方時確認。

金融資產及金融負債按公允價值初步計量，惟客戶合約產生的貿易應收款項初始根據國際財務報告準則第15號計量。收購或發行金融資產及金融負債直接產生的交易成本，於初步確認時加入金融資產或金融負債的公允價值或自金融資產或金融負債的公允價值內扣除（如適用）。就按公允價值計入損益的金融資產或金融負債而言，收購直接產生的交易成本即時於損益表確認。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

The effective interest method is a method of calculating the amortised cost of a financial asset or financial liability and of allocating interest income and interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts and payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial asset or financial liability, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

Financial assets

Classification and subsequent measurement of financial assets

Financial assets that meet the following conditions are subsequently measured at amortised cost:

- the financial asset is held within a business model whose objective is to collect contractual cash flows; and
- the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets that meet the following conditions are subsequently measured at FVTOCI:

- the financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling; and
- the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

3. 主要會計政策 (續)

金融工具 (續)

實際利率法乃計算金融資產或金融負債的攤銷成本及按有關期間攤分利息收入及利息支出的方法。實際利率法乃將估計日後現金收入及付款(包括所有構成整體實際利率的已付或已收費用及利率差價、交易成本及其他溢價或折讓)按金融資產或金融負債的預期使用年期,或(倘合適)較短期間實際折現至初次確認的賬面淨值的利率。

金融資產

金融資產的分類及後續計量

符合下列條件的金融資產其後按攤銷成本計量:

- 於一個商業模式內持有金融資產,而其目的是為了收取合約現金流量;及
- 合約條款令於特定日期產生的現金流量純粹為支付本金及未償還本金的利息。

符合下列條件的金融資產其後按公允價值計入其他全面收益計量:

- 於一個商業模式內持有金融資產,而其目的由收取合約現金流量及銷售達成;及
- 合約條款令於特定日期產生的現金流量純粹為支付本金及未償還本金的利息。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Financial instruments (Continued)

Financial assets (Continued)

Classification and subsequent measurement of financial assets (Continued)

All other financial assets are subsequently measured at FVTPL, except that at the date of initial recognition of a financial asset the Group may irrevocably elect to present subsequent changes in fair value of an equity investment in OCI if that equity investment is neither held for trading nor contingent consideration recognised by an acquirer in a business combination to which IFRS 3 *Business Combinations* applies.

A financial asset is held for trading if:

- it has been acquired principally for the purpose of selling in the near term; or
- on initial recognition it is a part of a portfolio of identified financial instruments that the Group manages together and has a recent actual pattern of short-term profit-taking; or
- it is a derivative that is not designated and effective as a hedging instrument.

In addition, the Group may irrevocably designate a financial asset that are required to be measured at the amortised cost or FVTOCI as measured at FVTPL if doing so eliminates or significantly reduces an accounting mismatch.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

金融資產的分類及後續計量（續）

所有其他金融資產其後按公允價值計入損益計量，惟於初始確認金融資產之日，倘該股本投資並非持作買賣，亦非收購方在國際財務報告準則第3號「業務合併」所適用的業務合併中確認的或然代價，本集團可不可撤銷地選擇於其他全面收益呈列股本投資公允價值的其後變動。

金融資產於下列情況為持作交易：

- 收購的主要目的為於短期作出售用途；或
- 於初始確認時構成本集團合併管理的已識別金融工具組合的一部分，並具有近期實際短期獲利模式；或
- 並非作為指定及有效對沖工具的衍生工具。

此外，本集團可不可撤回地將一項須按攤銷成本或指定為按公允價值計入其他全面收益計量的金融資產按公允價值計入損益計量，前提為有關指定可消除或大幅減少會計錯配。



3. SIGNIFICANT ACCOUNTING POLICIES

*(Continued)***Financial instruments** *(Continued)***Financial assets** *(Continued)**Classification and subsequent measurement of financial assets (Continued)*

- (i) Amortised cost and interest income
- Interest income is recognised using the effective interest method for financial assets measured subsequently at amortised cost and debt instruments/receivables subsequently measured at FVTOCI. Interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that have subsequently become credit-impaired (see below). For financial assets that have subsequently become credit-impaired, interest income is recognised by applying the effective interest rate to the amortised cost of the financial asset from the next reporting period. If the credit risk on the credit-impaired financial instrument improves so that the financial asset is no longer credit-impaired, interest income is recognised by applying the effective interest rate to the gross carrying amount of the financial asset from the beginning of the reporting period following the determination that the asset is no longer credit-impaired.

3. 主要會計政策(續)

金融工具(續)

金融資產(續)

金融資產的分類及後續計量(續)

- (i) 攤銷成本及利息收入
- 利息收入就其後按攤銷成本計量的金融資產及按公允價值計入其他全面收益計量的債務工具／應收款項以實際利率法確認。利息收入將實際利率用於金融資產總賬面值來計算，惟其後已變為信貸減值的金融資產除外(見下文)。就其後已變為信貸減值的金融資產而言，利息收入將實際利率用於自下個報告期起計的金融資產攤銷成本來確認。如信貸減值金融工具的信貸風險降低，以讓金融資產不再維持信貸減值，則利息收入在斷定資產不再維持信貸減值後，將實際利率用於自報告期開始時起計的金融資產總賬面值來確認。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Financial instruments (Continued)

Financial assets (Continued)

Classification and subsequent measurement of financial assets (Continued)

(ii) Debt instruments classified as at FVTOCI

Subsequent changes in the carrying amounts for debt instruments classified as at FVTOCI as a result of interest income calculated using the effective interest method are recognised in profit or loss. All other changes in the carrying amount of these debt instruments are recognised in other comprehensive income and accumulated under the heading of FVTOCI reserve. Impairment allowances are recognised in profit or loss with corresponding adjustment to other comprehensive income without reducing the carrying amounts of these debt instruments. When these debt instruments are derecognised, the cumulative gains or losses previously recognised in other comprehensive income are reclassified to profit or loss.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

金融資產的分類及後續計量（續）

(ii) 分類為按公允價值計入其他全面收益的債務工具

分類為按公允價值計入其他全面收益的債務工具因使用實際利率法計算利息收入而產生的其後賬面值變動乃於損益中確認。該等債務工具賬面值的所有其他變動於其他全面收益確認及於按公允價值計入其他全面收益儲備項下累計。減值撥備於損益中確認，相應調整則於其他全面收益確認，並不會扣除該等債務工具的賬面值。當終止確認該等債務工具時，過往於其他全面收益確認的累計收益或虧損會重新分類至損益。



3. SIGNIFICANT ACCOUNTING POLICIES

*(Continued)***Financial instruments** *(Continued)***Financial assets** *(Continued)**Classification and subsequent measurement of financial assets (Continued)*

(iii) Equity instruments designated as at FVTOCI

Investments in equity instruments designated as at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognised in OCI and accumulated in the investment revaluation reserve; and are not subject to impairment assessment. The cumulative gain or loss will not be reclassified to profit or loss on disposal of the equity investments, and will be transferred to retained profits. Dividends from these investments in equity instruments are recognised in profit or loss when the Group's right to receive the dividends is established, unless the dividends clearly represent a recovery of part of the cost of the investment. Dividends, if any are included in the other income and other gains and losses line item in profit or loss, if any.

(iv) Financial assets at FVTPL

Financial assets that do not meet the criteria for being measured at amortised cost or FVTOCI or designated as FVTOCI are measured at FVTPL.

Financial assets at FVTPL are measured at fair value at the end of each reporting period, with any fair value gains or losses recognised in profit or loss. The net gain or loss recognised in profit or loss includes any dividend or interest earned on the financial asset and is included in the "other gains and losses" line item.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

金融資產的分類及後續計量（續）

(iii) 指定為按公允價值計入其他全面收益的股本工具

指定為按公允價值計入其他全面收益的股本工具的投資其後按公允價值計量，其公允價值變動產生的收益及虧損於其他全面收益確認及於投資重估儲備累積；無須作減值評估。累計損益將不重新分類至出售股本投資之損益，並將轉撥至保留溢利。當本集團確認收取股息的權利時，該等股本工具投資的股息於損益中確認，除非股息明確表示收回部分投資成本。股息（如有）計入損益「其他收入及其他收益及虧損」項目。

(iv) 按公允價值計入損益的金融資產

不符合按攤銷成本或按公允價值計入其他全面收益或指定為按公允價值計入其他全面收益計量的金融資產，均按公允價值計入損益計量。

按公允價值計入損益的金融資產按各報告期末的公允價值計量，任何公允價值收益或虧損於損益中確認。於損益中確認的淨收益或虧損不包括該金融資產所賺取的任何股息，並計入「其他收益或虧損」項目。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets

The Group performs impairment assessment under expected credit loss (“ECL”) model on financial assets, which are subject to impairment under IFRS 9 (including trade receivables, other receivables, amounts due from related parties, debt instruments at fair value through other comprehensive income, receivables under service concession arrangement, bank balances and cash, and pledged bank deposits) and contract assets. The amount of ECL is updated at each reporting date to reflect changes in credit risk since initial recognition.

Lifetime ECL represents the ECL that will result from all possible default events over the expected life of the relevant instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events that are possible within 12 months after the reporting date. Assessment are done based on the Group’s historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current conditions at the reporting date as well as the forecast of future conditions.

The Group always recognises lifetime ECL for trade receivables and contract assets without significant financing component. Except for debtors including which is credit-impaired is assessed for impairment individually, the trade receivables and contract assets are grouped under a provision matrix into internal credit rating buckets based on shared credit risk characteristics by reference to repayment histories for recurring customers and current past due exposure for the new customers.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

金融資產減值

本集團根據預期信貸虧損（「預期信貸虧損」）模式對金融資產及合約資產進行減值評估，而上述金融資產受限於國際財務報告準則第9號的減值規定，包括貿易應收款項、其他應收款項、應收關連方款項、按公允價值計入其他全面收益的債務工具、服務特許經營安排項下的應收款項、銀行結餘及現金以及已抵押銀行存款。預期信貸虧損的金額於各報告日期更新，以反映自初步確認後信用風險的變化。

全期預期信貸虧損指相關工具的預期使用期內所有可能的違約事件產生的預期信貸虧損。相反，12個月預期信貸虧損指預期於報告日期後12個月內可能發生的違約事件導致的全期預期信貸虧損部分。評估乃根據本集團的歷史信貸虧損經驗進行，並根據債務人特有的因素、一般經濟狀況以及對報告日期當前狀況的評估以及對未來狀況的預測作出調整。

本集團始終就沒有重大融資成分的貿易應收款項及合約資產確認全期預期信貸虧損。除包括已出現信貸減值的債務人個別地作減值評估外，貿易應收款項及合約資產乃參考還款歷史記錄（就經常客戶而言）及當期逾期風險（就新客戶而言），基於共有的信貸風險特性根據撥備矩陣進行內部信貸評估的分類以作集體評估。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (Continued)

For all other instruments, the Group measures the loss allowance equal to 12m ECL, unless when there has been a significant increase in credit risk since initial recognition, the Group recognises lifetime ECL. The assessment of whether lifetime ECL should be recognised is based on significant increases in the likelihood or risk of a default occurring since initial recognition.

- (i) Significant increase in credit risk
In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition. In making this assessment, the Group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

3. 主要會計政策 (續)

金融工具 (續)

金融資產 (續)

金融資產減值 (續)

對於所有其他工具，本集團計量的虧損撥備等於12個月預期信貸虧損，除非自初步確認後信貸風險顯著增加，本集團確認全期預期信貸虧損。是否應確認全期預期信貸虧損的評估乃基於自初步確認以來發生違約的可能性或風險的顯著增加。

- (i) 信貸風險大幅增加
於評估金融工具自初步確認以來信貸風險有否大幅增加時，本集團將於報告日期金融工具發生的違約風險與初步確認日以來金融工具發生的違約風險進行比較。本集團進行此項評估時會考慮合理且可支持的定量及定性資料，包括無需付出不必要的成本或努力而可得的歷史經驗及前瞻性資料。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (Continued)

- (i) Significant increase in credit risk (Continued)
- In particular, the following information is taken into account when assessing whether credit risk has increased significantly since initial recognition:
- an actual or expected significant deterioration in the financial instrument's external (if available) or internal credit rating;
 - significant deterioration in external market indicators of credit risk, e.g. a significant increase in the credit spread, or the length of time or the extent to which the fair value of a financial asset has been less than its amortised cost;
 - existing or forecast adverse changes in business, financial or economic conditions that are expected to cause a significant decrease in the debtor's ability to meet its debt obligations;
 - an actual or expected significant deterioration in the operating results of the debtor;
 - an actual or expected significant adverse change in the regulatory, economic, or technological environment of the debtor that results in a significant decrease in the debtor's ability to meet its debt obligations.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

金融資產減值（續）

- (i) 信貸風險大幅增加（續）
- 具體而言，評估信貸風險自初步確認以來有否大幅增加時，會考慮以下資料：
- 金融工具外部（如有）或內部信用評級實際或預期會顯著惡化；
 - 信用風險的外部市場指標明顯惡化，例如信貸息差大幅上升，或金融資產公允價值低於其攤銷成本的時長或幅度大幅增加；
 - 預計會導致債務人履行債務責任能力大幅下降的業務、財務或經濟狀況的現有或預期不利變動；
 - 債務人經營業績實際或預期會顯著惡化；
 - 導致債務人履行債務責任能力大幅下降的監管、經濟或技術環境的實際或預期重大不利變動。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (Continued)

- (i) Significant increase in credit risk (Continued)
- Irrespective of the outcome of the above assessment, the Group presumes that the credit risk has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the Group has reasonable and supportable information that demonstrates otherwise.

The Group regularly monitors the effectiveness of the criteria used to identify whether there has been a significant increase in credit risk and revises them as appropriate to ensure that the criteria are capable of identifying significant increase in credit risk before the amount becomes past due.

- (ii) Definition of default
- The Group considers the following as constituting an event of default for internal credit risk management purposes as historical experience indicates that receivables that meet either of the following criteria are generally not recoverable.
- when there is a breach of covenants by the counterparty; or
 - information developed internally or obtained from external sources indicates that the debtor is unlikely to pay its creditors, including the Group, in full (without taking into account any collaterals held by the Group).

3. 主要會計政策 (續)

金融工具 (續)

金融資產 (續)

金融資產減值 (續)

- (i) 信貸風險大幅增加 (續)
- 不論上述評估結果如何，倘合約付款逾期超過30日，則本集團會假定信貸風險自初步確認以來已大幅上升，除非本集團另有合理且可證實資料可資證明，則作別論。

本集團定期監控用以識別信貸風險有否大幅增加的標準的效益，且修訂標準(如適當)來確保標準能在金額逾期前識別信貸風險大幅增加。

- (ii) 違約的定義
- 本集團認為以下情況就內部信貸風險管理目的而言構成違約事件，因為過往經驗表明符合以下任何一項條件的應收款項一般無法收回：
- 對手方違反契諾；或
 - 內部產生或獲取自外部來源的資料表明，債務人不太可能向債權人(包括本集團)全額還款，不計及本集團持有的任何抵押品。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (Continued)

(ii) Definition of default (Continued)

Irrespective of the above analysis, the Group considers that default has occurred when the contractual payment is more than 90 days past due unless the Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

(iii) Credit-impaired financial assets

A financial asset is credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Evidence that a financial asset is credit-impaired includes observable data about the following events:

- significant financial difficulty of the issuer or the borrower;
- a breach of contract, such as a default or past due event;
- the lender(s) of the borrower, for economic or contractual reasons relating to the borrower's financial difficulty, having granted to the borrower a concession(s) that the lender(s) would not otherwise consider; or
- it is becoming probable that the borrower will enter bankruptcy or other financial reorganization.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

金融資產減值（續）

(ii) 違約的定義（續）

無論上文分析如何，本集團認為當合約付款逾期超過90日時，即屬發生違約，除非本集團有合理及有理據的資料證明較寬鬆的違約標準更為適用則當別論。

(iii) 信貸減值金融資產

金融資產在一項或以上事件（對該金融資產估計未來現金流量構成不利影響）發生時維持信貸減值。金融資產維持信貸減值的證據包括有關下列事件的可觀察數據：

- 發行人或借款人的重大財困；
- 違反合約（如違約或逾期事件）；
- 借款人的貸款人因有關借款人財困的經濟或合約理由而向借款人批出貸款人不會另行考慮的優惠；或
- 借款人將可能陷入破產或其他財務重組。



3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (Continued)

(iv) Write-off policy

The Group writes off a financial asset when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, for example, when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Financial assets written off may still be subject to enforcement activities under the Group's recovery procedures. Any recoveries made are recognised in profit or loss.

(v) Measurement and recognition of ECL

The measurement of ECL is a function of the probability of default, loss given default and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information. Estimation of ECL reflects an unbiased and probability-weighted amount that is determined with the respective risks of default occurring as the weights.

Generally, the ECL is the difference between all contractual cash flows that are due to the Group in accordance with the contract and the cash flows that the Group expects to receive, discounted at the effective interest rate determined at initial recognition.

3. 主要會計政策 (續)

金融工具 (續)

金融資產 (續)

金融資產減值 (續)

(iv) 撤銷政策

資料顯示對手方處於嚴重財困及無實際收回可能時(例如對手方被清盤或已進入破產程序),本集團則撤銷金融資產。遭撤銷的金融資產可能仍須按本集團收回程序進行強制執行活動。任何收回款項在損益中確認。

(v) 預期信貸虧損的計量及確認

預期信貸虧損的計量為違約概率、違約損失率及違約風險的函數。違約概率及違約損失率乃基於根據前瞻性資料調整的歷史數據評估。預期信貸虧損的預估乃無偏概率加權平均金額,以發生違約的風險為權重確定。

一般而言,預期信貸虧損為本集團根據合約應收的所有合約現金流量與本集團預計收取的所有現金流量的差額,並按初步確認時釐定的實際利率貼現。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (Continued)

- (v) Measurement and recognition of ECL (Continued)
To measure the ECL, contract assets and trade receivables and other receivables are grouped based on shared common risk characteristics. The Group believes that most of the customers of trade receivable are the same in nature, who are power plants, and treats all customers as one single group. The grouping is regularly reviewed by the Directors to ensure the constituents of the group continue to share similar credit risk characteristics.

Interest income is calculated based on the gross carrying amount of the financial asset unless the financial asset is credit-impaired, in which case interest income is calculated based on amortised cost of the financial asset.

Except for investments in debt instruments/receivables that are measured at FVTOCI, the Group recognises an impairment gain or loss in profit or loss for all financial instruments by adjusting their carrying amount, with the exception of trade receivables, contract assets and other receivables where the corresponding adjustment is recognised through a loss allowance account.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

金融資產減值（續）

- (v) 預期信貸虧損的計量及確認（續）
計量預期信貸虧損時，合約資產及貿易應收款項及其他應收款項按共同風險特點分類。本集團相信貿易應收款項的大部分客戶（發電廠）屬同一性質，將全部客戶視為同一類。董事定期檢討分組，確保集團成員公司繼續攤佔類似的信貸風險特點。

利息收入按金融資產的總賬面值計算，除非該金融資產信貸減值，則利息收入按金融資產的攤銷成本計算。

除債務工具投資／按公允價值計入其他全面收益計量的應收款項外，本集團通過調整所有金融工具的賬面值於損益中確認彼等的減值收益或虧損，惟貿易應收款項、合約資產及其他應收款項除外，此種情況下透過虧損撥備賬確認相應調整。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Derecognition of financial assets

The Group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

On derecognition of a financial asset measured at amortised cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognised in profit or loss.

On derecognition of an investment in a debt instrument classified as at FVTOCI, the cumulative gain or loss previously accumulated in the FVTOCI reserve is reclassified to profit or loss.

On derecognition of an investment in equity instrument which the Group has elected on initial recognition to measure at FVTOCI upon application of IFRS 9, the cumulative gain or loss previously accumulated in the investments revaluation reserve is not reclassified to profit or loss, but is transferred to retained profits.

Classification as debt or equity

Debt and equity instruments issued by a group entity are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

3. 主要會計政策(續)

金融工具(續)

金融資產(續)

終止確認金融資產

僅當從資產收取現金流量之合約權利已到期，或當本集團已將金融資產及其於資產擁有權之絕大部分風險及回報轉讓予另一實體時，本集團終止確認金融資產。倘本集團並無轉讓亦無保留擁有權之絕大部分風險及回報，並繼續控制已轉讓資產，本集團確認其於資產內的保留權益，並就其可能須支付的款項確認相關負債。倘本集團保留已轉讓金融資產擁有權之絕大部分風險及回報，則本集團繼續確認金融資產，同時亦就已收取之所得款項確認有抵押借貸。

終止確認按攤銷成本計量的金融資產時，資產賬面價值與已收及應收代價之總和之差額，將於損益中確認。

終止確認分類為按公允價值計入其他全面收益的債務工具的投資時，以往於按公允價值計入其他全面收益儲備中累計的損益會重新分類至損益。

終止確認股本工具的投資(本集團應用國際財務報告準則第9號後於初步確認時選擇按公允價值計入其他全面收益計量)時，以往於投資重估儲備中累計的損益不會重新分類至損益，但會轉入保留溢利。

分類為債務或權益

集團實體所發行的債務及股本工具按合同安排的性質以及金融負債及股本工具的定義分類為金融負債或權益。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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3. SIGNIFICANT ACCOUNTING POLICIES

(Continued)

Financial instruments (Continued)

Financial assets (Continued)

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by a group entity are recognised at the proceeds received, net of direct issue costs.

Repurchase of the Company's own equity instruments is recognised and deducted directly in equity. No gain or loss is recognised in profit or loss on the purchase, sale, issue or cancellation of the Company's own equity instruments.

Financial liabilities

All financial liabilities are subsequently measured at amortised cost using the effective interest method or at FVTPL. The Group's financial liabilities are classified as financial liabilities at amortised cost.

Financial liabilities measured at amortised cost

Financial liabilities measured at amortised cost including trade and notes payables, other payables, amounts due to related parties and borrowings are subsequently measured at amortised cost, using the effective interest method.

Derecognition of financial liabilities

The Group derecognises financial liabilities when, and only when, the Group's obligations are discharged, cancelled or have expired. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable is recognised in profit or loss.

3. 主要會計政策（續）

金融工具（續）

金融資產（續）

股本工具

股本工具為證明實體資產經扣除其所有負債後的剩餘權益的任何合同。集團實體發行的股本工具按已收所得款項（扣除直接發行成本）確認。

本公司本身之股本工具之購回乃直接於權益內確認及扣除。並無於損益賬內確認購買、出售、發行或註銷本公司本身之股本工具之溢利或虧損。

金融負債

所有金融負債其後以實際利率法按攤銷成本計量，或按公允價值計入損益。本集團的金融負債分類為按攤銷成本計量的金融負債。

按攤銷成本計量的金融負債

按攤銷成本計量的金融負債包括貿易應付款項及應付票據、其他應付款項、應付關連方款項及銀行借款，其後按攤銷成本使用實際利率法計量。

終止確認金融負債

當本集團的責任已予解除、取消或已終止後，本集團方會終止確認金融負債。已終止確認金融負債的賬面值與已付及應付代價間之差額於損益中確認。



3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Borrowing costs

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

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

Share-based payment arrangements

Equity-settled share-based payments to employees and others providing similar services are measured at the fair value of the equity instruments at the grant date. Details regarding the determination of the fair value of equity-settled share-based transactions are set out in note 41.

The fair value determined at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, based on the Group's estimate of equity instruments that will eventually vest, with a corresponding increase in equity. At the end of the reporting period, the Group revises its estimate of the number of equity instruments expected to vest.

The impact of the version of the original estimates, if any, is recognised in profit or loss such that the cumulative expense reflects the revised estimate, with a corresponding adjustment to the share premium.

3. 主要會計政策（續）

借貸成本

收購、建造或生產合資格資產（指必須經一段長時間方準備就緒作其擬定用途或出售的資產）直接應佔的借貸成本乃加上至該等資產的成本，直至資產大致上準備就緒作其擬定用途或出售時為止。

所有其他借貸成本均在其產生期間內於損益中確認。

以股份為基礎之付款安排

向僱員及其他提供類似服務的人士作出的以股權結算以股份為基礎的付款乃於授出日期按股本工具的公允價值計量。有關釐定以股權結算以股份為基礎的交易的公允價值的詳情載於附註41。

於授出日期釐定以股權結算以股份為基礎的付款的公允價值乃於歸屬期間，基於本集團對將會最終歸屬的股本工具的估計，按直線法支銷，權益則相應增加。於各報告期末，本集團會修訂其對預計將會歸屬的股本工具數量的估計。

修訂最初估計的影響（倘有）將於損益中確認，以使累積開支能夠反映修訂後的估計，並對股份溢價作出相應調整。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Share-based payment arrangements (Continued)

Equity-settled share-based payment transactions with parties other than employees are measured at the fair value of the goods or services received, except where that fair value cannot be estimated reliably, in which case they are measured at the fair value of the equity instruments granted, measured at the date the entity obtains the goods or the counterparty renders the service.

4. KEY SOURCES OF ESTIMATION UNCERTAINTY

In the application of the Group's accounting policies, which are described in note 3, the Directors are required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

The followings are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

3. 主要會計政策（續）

以股份為基礎之付款安排（續）

僱員以外人士參與的以股權結算以股份為基礎的付款交易按所接收商品或服務的公允價值計量，除非有關公允價值無法可靠估計，在此情況下，則按所授出股本工具的公允價值於實體取得商品或對手方提供服務之日計量。

4. 估計不明朗因素的主要來源

於應用附註3所述之本集團會計政策時，董事被要求就未能於其他來源取得之資產及負債之賬面金額作出判斷、估計及假設。估計及相關假設乃根據過往經驗及其他被認為屬相關之因素作出。實際結果可能有別於該等估計。

本集團會持續審視該等估計及相關假設。倘會計估計之修訂僅影響作出修訂估計之期間，則有關估計修訂將於作出修訂之期間確認，或倘修訂對本期及未來期間均會構成影響，則會於作出修訂之期間及未來期間確認。

以下為於報告期末有關未來之主要假設及估計不明朗因素之其他主要來源，具有導致資產及負債之賬面金額於下一財政年度內作出大幅調整之重大風險。



4. KEY SOURCES OF ESTIMATION UNCERTAINTY (Continued)

Progress of completion of performance obligations

The Group's revenue from construction contracts is recognised over time based on the stage of completion of the contract, which is determined as the proportion of the costs incurred relative to the estimated total costs to complete the contract. The Directors estimate both of the profit margin and contract cost at the beginning for each contract, revise the estimation of both profit margin and contract cost through regular review when the Directors consider there are changes in the assumptions throughout the contract period. The actual outcome of the contract in terms of its total revenue and costs may be higher or lower than the estimates and this will affect the revenue and profit recognised.

In addition, the Group makes provision for expected loss on construction contracts based on the estimation of the outcome of the ongoing construction projects by the Directors' prior experience and industry averages for similar projects. The Group assesses periodically the expected return of construction contracts and if the expectation differs from the original estimate, such difference will impact the expected return in the period in which such estimate has been changed.

4. 估計不明朗因素的主要來源(續)

完成履約責任的進度

本集團來自建造合約的收益根據合約的完成階段隨著時間確認，而合約完成階段按所產生的成本佔完成該合約估計總成本的比例釐定。董事於各合約開始時估計溢利率及合約成本，並於董事認為整個合約期的假設有變時透過定期檢討而修改對溢利率及合約成本的估計。於有關合約總收益及成本的實際結果或會高於或低於估計值，這將會影響已確認的收益及溢利。

此外，本集團根據董事就類似項目的過往經驗及行業平均水平就正在進行的建築項目成果的估計對建築合約預期虧損計提撥備。本集團定期評估建築合約的預期回報及倘預期值有別於原始估計，有關差額將影響有關估計變動期間的預期回報。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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4. KEY SOURCES OF ESTIMATION UNCERTAINTY (Continued)

Provision of ECL for trade receivables and contract assets

The management of the Group estimates the amount of lifetime ECL of trade receivables and contract assets based on provision matrix through grouping of various debtors that have similar loss patterns, after considering ageing, internal credit ratings of trade debtors, repayment history and/or past due status of respective trade receivables. Estimated loss rates are based on historical observed default rates over the expected life of the debtors and are adjusted for forward-looking information. In addition, trade receivables and contract assets that are credit-impaired are assessed for ECL individually. The loss allowance amount of the trade receivables and contract assets is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows with the consideration of expected future credit losses. The provision of ECL is sensitive to changes in estimates. The Group's historical credit loss experience and forecast of economic conditions may also not be representative of a customer's actual default in the future. The information about the ECL and the Group's trade receivables and contract assets are disclosed in notes 24, 23 and 37 respectively.

Provision for customer claims

The Directors estimate the results of relevant events based on the information available upon 31 December, 2019 and recognise accrued liabilities at a most probable amount. Actual results may be different depending on the future progress. Details refer to note 30.

4. 估計不明朗因素的主要來源（續）

貿易應收款項及合約資產的預期信貸虧損撥備

本集團管理層經考慮貿易債務人的賬齡、內部信貸評級、還款歷史及／或個別貿易應收款項的逾期狀況後，將具有類似信貸風險特點的債務人分組，根據撥備矩陣估計貿易應收款項及合約資產的全期預期信貸虧損金額。估計虧損率乃根據過往可觀察的違約率除以債務人的預期賬齡，並就前瞻性資料作出調整。此外，已出現信貸減值的貿易應收款項及合約資產將個別評估預期信貸虧損。貿易應收款項及合約資產的虧損撥備金額乃以資產的賬面值與估計未來現金流量的現值加上預期未來信貸虧損兩者之間的差額計量。預期信貸虧損撥備對估計變動尤為敏感。本集團過往的信貸虧損經驗及對經濟狀況的預測亦未必反映客戶未來的實際違約情況。有關預期信貸虧損及本集團貿易應收款項及合約資產的資料分別於附註24及23及37披露。

就客戶索償所作撥備

董事根據於2019年12月31日可得的資料來估計有關事件的結果，並按最可能的金額確認應計負債。視乎未來進度，實際結果或會有所不同。詳情請參閱附註30。



5. REVENUE AND SEGMENT INFORMATION

Revenue recognition

Revenue is mainly generated from the flue gas desulfurisation and denitrification services through three different models, namely EPC, operation and maintenance and concession operation. In addition, the Group also provides sales of by-products, which are recorded in others.

Disaggregation of revenue

5. 收益及分部資料

收益確認

收益主要透過三種不同模式(即EPC、運營與維護及特許經營業務)自煙氣脫硫及脫硝服務產生。此外,本集團亦提供銷售副產品並於其他項目中列賬。

收益的細分

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Timing of revenue recognition	確認收益的時間		
Over time	隨著時間	1,811,434	1,717,555
A point in time	時間點	25,062	27,443
		1,836,496	1,744,998
Types of goods and services	貨品及服務類品		
Provision of services	提供服務	1,811,434	1,717,555
Sales of goods	銷售貨品	25,062	27,443
		1,836,496	1,744,998
Nature of goods and services	貨品及服務性質		
EPC	EPC	730,628	722,117
O&M	運營與維護	380,317	415,113
Concession operation	特許經營	700,489	580,051
Others	其他	25,062	27,717
		1,836,496	1,744,998



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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5. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue recognition (Continued)

Revenue is measured based on the consideration specified in a contract with customer and excluded amounts collected on behalf of third parties. The Group principally earns revenue from provision of construction, operation and management services including:

- Environmental protection facility engineering services, mainly include engineering, procurement and construction (“**EPC**”)
- Operation and management (“**O&M**”) services
- BOT & TOT
- Others

(i) **EPC services**

EPC business primarily involves project engineering and design, procurement of equipment and materials, project construction, equipment installation and commissioning services in relation to desulfurisation and denitrification and dust removal for coal-fired power plants.

The Directors have assessed that the Group’s performance creates and/or enhances an asset that the customers control as the Group performs. Therefore, the Directors have satisfied that there is only one single performance obligation and the services are satisfied over time.

5. 收益及分部資料（續）

收益確認（續）

收益基於客戶合同所述代價計量，不包括代第三方收取的金額。本集團主要自提供建築、營運及管理服務賺取收益，包括：

- 環保設施工程服務，主要包括工程、採購及建設（「**EPC**」）
- 運營及維護（「**運維**」）服務
- BOT及TOT
- 其他

(i) **EPC服務**

EPC業務主要涉及為燃煤電廠的脫硫、脫硝及除塵提供項目工程設計、設備與材料採購、項目建設、設備安裝及調試服務。

董事確定本集團的履約為客戶創造資產及／或增強客戶控制的資產。因此，董事認為只有一種履約責任，而服務須經一段時間達成。



5. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue recognition (Continued)

(i) EPC services (Continued)

Accordingly, revenue from EPC services, which are generally under project based development contracts, is recognised based on the progress towards complete satisfaction of a performance obligation which is determined as the proportion of the costs incurred for the works (i.e. subcontracting costs, material costs and direct staff costs incurred) performed to date relative to the estimated total costs to complete the satisfaction of these services and the margin of each project, to the extent that the amount can be measured reliably and its recovery is considered probable.

The Group's construction contracts include payment schedules which require stage payments over the construction period once certain specified milestones are reached. The Group requires certain customers to provide upfront payments range from 10% to 30% of total contract sum, when the Group receives a deposit before construction commences, this will give rise to contract liabilities at the start of a contract, until the revenue recognised on the specific contract exceeds the amount of the deposit.

5. 收益及分部資料(續)

收益確認(續)

(i) EPC服務(續)

因此，EPC服務(一般根據項目式開發合約進行)的收益，按照合約完成階段確認。合約完成階段按各項目迄今已完成工作所產生的成本(即分包成本、物料成本及直接員工成本)佔完成該等服務估計總成本加上溢利的比例釐定，惟須以能可靠計量且可能收回的金額為限。

本集團的建築合約包括付款時間表，其規定一旦達到若干指定的里程碑，需要在有關建築期間分期付款。本集團要求若干客戶提供前期按金佔合約總額的10%至30%，當本集團於建築開始前收到按金，合約負債將在合約開始時產生，直至特定合約的已確認收益超出按金金額。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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5. REVENUE AND SEGMENT INFORMATION

(Continued)

Revenue recognition (Continued)

(i) EPC services (Continued)

About 5%-10% of the contract price is withheld by the customers and will be released upon completion of the warranty period (normally 1-2 years after the date of the practical completion of the construction). The services to be provided during the warranty period is considered as an assurance-type warranty in order to ensure the construction services performed comply with agreed-upon specifications and is accounted for in accordance with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*. Retention receivables, prior to expiration of warranty period, are classified as contract assets and is reclassified to trade receivables when the warranty period expires. The management of the Group has assessed the effects of financing component is not significant at contract level and therefore revenue is not adjusted for the effects of time value of money.

(ii) O&M services

O&M services mainly include the provision of operation service and regular maintenance service for desulfurisation and denitrification facilities and dust removal facilities owned by their customers, where the Group's work scope includes the full operation, testing and repairing, upgrading and maintenance of flue gas treatment system/facilities owned by these coal-fired power plants.

5. 收益及分部資料（續）

收益確認（續）

(i) EPC服務（續）

合約價格約5%-10%由客戶保留，並會於保證期完結時（一般為實際完成建設的日期後1至2年）發放。於保證期內將予提供的服務被視為屬擔保形式的保證，以確保所執行的建設服務符合協定規格並按國際會計準則第37號「撥備、或然負債及或然資產」入賬。在保證期屆滿前，保留應收款項分類為合約資產，並於保證期屆滿時重新分類至貿易應收款項。本集團管理層已在合約層面評估融資組成部分的影響並不重大，因此不就時間值的影響調整收益。

(ii) 運維服務

運維服務主要包括對客戶擁有的脫硫及脫硝設施及除塵設施提供運營服務及常規維護服務。本集團的工作範疇包括全面運營、檢修、升級及維護有關燃煤電廠擁有的煙氣處理系統／設施。



5. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue recognition (Continued)

(ii) O&M services (Continued)

Pursuant to certain contracts of rendering related O&M services, the transaction price is the amount of consideration to which the Group expects to be entitled in exchange for transferring O&M services to customers. Additionally, the O&M services typically meet the criterion where customers simultaneously receive and consume the benefits of the Group's performance as the Group performs. Therefore the Directors have satisfied that the performance obligation of rendering O&M services are satisfied over time which is recognised over the service period.

For certain O&M services and the O&M service under service concession arrangements, the Group applies the practical expedient by recognising revenue in the amount to which the Group has right to invoice. The transaction price allocated to these unsatisfied contracts is not disclosed as permitted by IFRS 15.

(iii) BOT & TOT services

In a typical BOT & TOT project, the Group is responsible for the financing, investment, construction and operation of the project according to the concession contract with their customer. After the completion of the constructions, the Group operates and maintains the project for a pre-defined period, which is typically 15 to 20 years, when they are entitled to collecting revenues generated from the project during the term of the contract.

5. 收益及分部資料 (續)

收益確認 (續)

(ii) 運維服務 (續)

根據提供相關運維服務的合約，交易價格即本集團預期向客戶提供運維服務應得的代價。此外，運維服務通常符合客戶同時獲得及使用本集團履約所得利益的準則。因此，董事認為提供運維服務的履約責任需經一段時間達成，並在服務期確認。

就若干運營與維護服務及服務特許經營安排的運營與維護服務而言，本集團透過確認本集團有權開具發票的金額之收益應用可行權宜方法。按國際財務報告準則第15號准許，分配至該等未履行合約的交易價格並未披露。

(iii) BOT及TOT服務

在一般BOT及TOT項目中，本集團負責根據與客戶訂立的特許經營合同為項目籌措資金、投資、建設及運營。竣工後，本集團亦於預先規定的期限（通常為15至20年）內控制、運營及維持項目，本集團有權在合約期內收取項目所得收益。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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5. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue recognition (Continued)

(iii) BOT & TOT services (Continued)

The Directors have assessed that BOT & TOT services comprise two separate performance obligations, the construction of the facilities and the operating and maintenance service upon the completion of the construction of facilities, equivalent as a combination of EPC service and O&M service. Revenue recognition for each performance obligation follows the comparable stand-alone services specified above in (i) and (ii).

(iv) Other revenues from sales of by-products and others are recognised at the point of time when the control of goods is passed to the customer.

Transaction price allocated to the remaining performance obligations for contracts with customers

For the EPC services and construction services under service concession arrangements, the transaction price allocated to the remaining performance obligations (unsatisfied or partially unsatisfied) as at 31 December 2019 and the expected timing of recognising revenue are as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Within one year	一年內	415,116	433,756
More than one year but not more than two years	一年以上但不超過兩年	431,950	305,988
More than two years	超過兩年	47,920	469,221
		894,986	1,208,965

5. 收益及分部資料（續）

收益確認（續）

(iii) BOT及TOT服務（續）

董事已評估，BOT及TOT服務包括兩項個別的履約責任，即設施建造完成後的設施建設、運營及維修服務，相當於EPC服務及運維服務的結合。各履約責任的收益確認遵循上文(i)及(ii)指明的可比較的獨立服務。

(iv) 銷售副產品及其他的收益在貨品的控制權轉移至客戶時確認。

客戶合約中分配至剩餘履約責任的交易價格

就服務特許經營安排下的EPC服務及建造服務而言，於2019年及2018年12月31日分配至剩餘履約責任（未滿足或部分滿足）的交易價格及預期確認收益如下：



5. REVENUE AND SEGMENT INFORMATION (Continued)

Revenue recognition (Continued)

Transaction price allocated to the remaining performance obligations for contracts with customers (Continued)

For the O&M services with fixed total contract amounts, the transaction price allocated to the remaining performance obligations (unsatisfied or partially unsatisfied) as at 31 December 2019 and 2018 and the expected timing of recognising revenue are as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Within one year	一年內	59,424	151,976
More than one year but not more than two years	一年以上但不超過兩年	5,618	37,363
More than two years	超過兩年	-	102,813
		65,042	292,152

Segment information

For the purposes of resources allocation and assessment of segment performance, the executive Directors, being the chief operating decision maker ("CODM"), regularly review types of goods or services delivered or provided by focusing on different business models. No operating segments have been aggregated in arriving at the reportable segments of the Group.

5. 收益及分部資料 (續)

收益確認 (續)

客戶合約中分配至剩餘履約責任的交易價格 (續)

就固定合約總數的運營與維護服務而言，於2019年及2018年12月31日分配至剩餘履約責任(未滿足或部分滿足)的交易價格及預期確認收益如下：

分部資料

為進行資源分配及分部業績評估，執行董事(即主要運營決策者(「主要運營決策者」))通過專注於不同業務模式定期審查所交付貨物或所提供服務的類別。於達致本集團可呈報分部時概無匯集經營分部。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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5. REVENUE AND SEGMENT INFORMATION

(Continued)

Segment information (Continued)

Specifically, the Group's reportable segments under IFRS 8 are as follows:

EPC	project design, procurement of equipment and materials, project construction and equipment installment and testing services
O&M	operation service and regular maintenance service for desulfurisation and denitrification facilities and dust removal facilities
BOT & TOT	construction of infrastructure or acquisition of existing infrastructure from grantor, operation and maintenance of flue gas treatment project for a pre-defined period according to the concession contract and transferring the ownership of the infrastructure to the grantor at the end of the period
Others	sales of by-products and others

5. 收益及分部資料（續）

分部資料（續）

具體而言，根據國際財務報告準則第8號，本集團的可呈報分部如下：

EPC	項目設計、設備及材料採購、項目建設及設備安裝及測試服務
運維	脫硫及脫硝設施及除塵設施的運營服務及常規維護服務
BOT及TOT	根據特許經營合約於預定期間進行基礎設施建設或自授予人收購現有基礎設施、煙氣治理項目運營與維護以及於期末轉讓基礎設施的所有權予授予人
其他	銷售副產品及其他



5. REVENUE AND SEGMENT INFORMATION (Continued)

Segment information (Continued)

The following is an analysis of the Group's revenue and results by operating and reportable segment:

分部資料(續)

下文為按營運及可呈報分部劃分的本集團收益及業績分析：

		Segment revenue 分部收益		Segment profit 分部溢利	
		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
EPC	EPC	730,628	722,117	29,344	56,523
O&M	運維	380,317	415,113	81,659	124,556
Concession operation	特許經營	700,489	580,051	172,257	114,042
Others	其他	25,062	27,717	23,262	22,737
Total	總計	1,836,496	1,744,998	306,522	317,858
Unallocated other income and expense and other gains and losses	未分配其他收入及開支以及其他收益和虧損			25,436	117,456
Unallocated selling and distribution expenses	未分配銷售及分銷開支			(29,295)	(26,170)
Unallocated administrative expenses	未分配行政開支			(88,776)	(98,485)
Unallocated research and development expenses	未分配研發開支			(24,256)	(10,618)
Unallocated allowance of impairment losses on financial assets and contract assets	未分配金融資產及合約資產的減值虧損撥備			(10,928)	(3,816)
Unallocated share of profit of associates	未分配應佔聯營公司溢利			34,541	27,963
Unallocated finance costs	未分配融資成本			(4,177)	(5,900)
Unallocated change in fair value of convertible ordinary shares	未分配可轉換普通股的公允價值變動			-	133,541
Unallocated listing expenses	未分配上市開支			-	(3,319)
Profit before tax	除稅前溢利			209,067	448,510



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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5. REVENUE AND SEGMENT INFORMATION (Continued)

Segment information (Continued)

The accounting policies of the operating and reportable segments are the same as the Group's accounting policies described in note 3.

Segment revenue reported above represents revenue generated from external customers. There were no inter-segment sales for the year ended 31 December 2019 (2018: Nil).

Segment profit represents the gross profit of each segment. This is the measure reported to the CODM for the purposes of resource allocation and assessment of segment performance.

No segment assets and liabilities are presented as the CODM does not regularly review segment assets and liabilities.

Information about major customers

Revenue from customers during the year contributing over 10% of the total revenue of the Group are as follows:

	Segment 分部	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Customer A 客戶A	O&M 運維	*	255,575

* Revenue from the customer was less than 10% in 2019.

Geographical information

The Group primarily operates in the PRC. Substantially all non-current assets and revenue of the Group are located in and generated from the PRC.

5. 收益及分部資料（續）

分部資料（續）

營運及可呈報分部的會計政策與本集團於附註3敘述的會計政策相同。

上文呈報的分部收益指來自外部客戶的收益。截至2019年12月31日止年度概無分部間銷售（2018年：無）。

分部溢利指各分部的毛利。此為就資源分配及分部業績評估向主要運營決策者報告的方法。

由於主要運營決策者並未定期審閱分部資產及負債，因此，概無呈列分部資產及負債。

主要客戶資料

於本年度，來自貢獻本集團總收益10%以上客戶的收益如下：

* 來自該客戶的收益於2019年不足10%。

地區資料

本集團主要於中國經營業務。本集團幾乎所有非流動資產及收益均位於中國及自中國產生。



6. OTHER INCOME AND EXPENSE AND OTHER GAINS AND LOSSES

Included in other income and expense and other gains and losses are government grants amounting to RMB23,358,000 (2018: RMB26,968,000), dividend from financial assets at FVTPL amounting to RMB4,186,000 (2018: nil), provision for claims from customer amounting to RMB15,000,00 (2018: nil), gains from extinguishment of liabilities amounting to RMB1,964,000 (2018: RMB8,786,000), and foreign exchange gains amounting to RMB1,786,000 (2018: RMB35,445,000).

6. 其他收入及開支以及其他收益和虧損

計入其他收入及開支以及其他收益和虧損的項目為政府補貼人民幣23,358,000元(2018年:人民幣26,968,000元)、來自按公允價值計入損益的金融資產之股息人民幣4,186,000元(2018年:無)、客戶索償撥備人民幣15,000,000元(2018年:無)、取消償還負債的收益人民幣1,964,000元(2018年:人民幣8,786,000元)及匯兌收益人民幣1,786,000元(2018年:人民幣35,445,000元)。

7. ALLOWANCE OF IMPAIRMENT LOSSES ON FINANCIAL ASSETS AND CONTRACT ASSETS

7. 金融資產及合約資產的減值虧損撥備

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Allowance for trade receivables	貿易應收款項撥備	(4,882)	(324)
Allowance for other receivables	其他應收款項撥備	(1,423)	(125)
Reversal (allowance) of contract assets	合約資產撥備撥回(撥備)	3,003	(1,278)
Allowance for amounts due from related parties	應收關連方款項撥備	(7,427)	(2,244)
(Allowance) reversal of receivables under service concession arrangement	服務特許經營安排項下的應收款項(撥備)撥備撥回	(199)	155
		(10,928)	(3,816)

8. FINANCE COSTS

8. 財務成本

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Interest on borrowings	借款利息	3,131	5,900
Interest on lease liabilities	租賃負債利息	1,046	-
		4,177	5,900
Total	總計	4,177	5,900



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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9. INCOME TAX EXPENSE

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Current income tax – PRC	即期所得稅 – 中國	31,538	48,239
Deferred income tax (note 21)	遞延稅項 (附註21)	(5,085)	7,452
Total	總計	26,453	55,691

Pursuant to the Enterprise Income Tax Law (the “**EIT Law**”) effective on 1 January 2008, Beijing Boqi Electric Power SCI-TECH Co., Ltd. (北京博奇電力科技有限公司) (“**Beijing Boqi**”) obtained a “High and New Technology Enterprise” (the “**HNTE**”) in 2008 which Beijing Boqi was entitled to a preferential tax rate of 15% from 2008 to 2010 and could be re-applied every three years; the current active HNTE certificate has an effective date until December 2020.

In October 2015, Shanxi Hejin Boqi Environmental Technology Co., Ltd. (山西河津博奇環保科技有限公司) (“**Hejin Boqi**”) obtained the approval for being eligible as the HNTE for the year ended 31 December 2015 which Hejin Boqi was entitled to a preferential tax rate of 15% from 2015 to 2017 and could be re-applied every three years; the current active HNTE certificate has an effective date until December 2021.

In November 2016, Jiangxi Jinggangshan Boqi Environmental Technology Co., Ltd. (江西井岡山山博奇環保科技有限公司) (“**Jinggangshan Boqi**”) obtained the approval for being eligible as the HNTE for the year ended 31 December 2016 which Jinggangshan Boqi was entitled to a preferential tax rate of 15% from 2016 to 2018 and could be re-applied every three years, and the current active HNTE certificate has an effective date until September 2022.

9. 所得稅開支

根據於2008年1月1日生效的企業所得稅法（「**企業所得稅法**」），北京博奇電力科技有限公司（「**北京博奇**」）於2008年獲評為「**高新技術企業**」（「**高新技術企業**」），北京博奇據此於2008年至2010年間享有15%的優惠稅率且可每隔三年重新申請；目前生效的**高新技術企業**認證有效期至2020年12月。

於2015年10月，山西河津博奇環保科技有限公司（「**河津博奇**」）取得批文，於截至2015年12月31日止年度合資格為**高新技術企業**。因此，河津博奇自2015年至2017年享有15%的優惠稅率且可每隔三年重新申請；目前生效的**高新技術企業**認證有效期至2021年12月。

於2016年11月，江西井岡山博奇環保科技有限公司（「**井岡山博奇**」）取得批文，於截至2016年12月31日止年度合資格為**高新技術企業**，因此，井岡山博奇於2016年至2018年享有15%的優惠稅率且可每隔三年重新申請；目前生效的**高新技術企業**認證有效期至2022年9月。



9. INCOME TAX EXPENSE (Continued)

In December 2017, Shanxi Puzhou Boqi Environmental Technology Co., Ltd. (山西蒲洲博奇環保科技有限公司) (“**Puzhou Boqi**”) obtained the approval, by which the desulfurisation program in Puzhou Boqi was entitled to a preferential income tax of three-years free from 2017, followed by a three-year preferential rate of 12.5%.

In January 2019, Huainan Boqi Environmental Technology Co., Ltd. (淮南博奇環保科技有限公司) (“**Huainan Boqi**”) obtained the approval, by which the desulfurisation program was entitled to a preferential income tax of three-years free from 2019, followed by a three-year preferential rate of 12.5%.

In May 2019, Laibin Boqi Environmental Technology Co., Ltd. (來賓博奇環保科技有限公司) (“**Laibin Boqi**”) obtained the approval, by which the desulfurisation program was entitled to a preferential income tax of three-years free from 2019, followed by a three-year preferential rate of 12.5%.

Changzhi Boqi Environmental Technology Co., Ltd. (長治博奇環保科技有限公司) (“**Changzhi Boqi**”) obtained the approval, by which the sewage treatment program was entitled to a preferential income tax of three-years free from 2018, followed by a three-year preferential rate of 12.5%.

In January 2019, Changjizhou Boqi Environmental Technology Co., Ltd. (昌吉州博奇環保科技有限公司) (“**Changjizhou Boqi**”) obtained the approval, by which was entitled to a preferential income tax of 15% from 2019 to 2021.

The applicable tax rate of other PRC subsidiaries of the Company was 25% for the year ended 31 December 2019 (2018: 25%).

9. 所得稅開支(續)

於2017年12月，山西蒲洲博奇環保科技有限公司(「**蒲洲博奇**」)獲批於蒲洲博奇的脫硫計劃自2017年享有免繳三年所得稅的優惠，其後三年可享有12.5%的優惠稅率。

於2019年1月，淮南博奇環保科技有限公司(「**淮南博奇**」)獲批於淮南博奇的脫硫業務計劃自2019年享有免繳三年所得稅的優惠，其後三年可享有12.5%的優惠稅率。

於2019年5月，來賓博奇環保科技有限公司(「**來賓博奇**」)獲批於來賓博奇的脫硫業務計劃自2019年享有免繳三年所得稅的優惠，其後三年可享有12.5%的優惠稅率。

長治博奇環保科技有限公司(「**長治博奇**」)獲批於長治博奇的污水處理業務計劃自2018年享有免繳三年所得稅的優惠，其後三年可享有12.5%的優惠稅率。

於2019年1月，昌吉州博奇環保科技有限公司(「**昌吉州博奇**」)獲批自2019年至2021年享有15%的所得稅優惠稅率。

截至2019年12月31日止年度，本公司其他中國附屬公司的適用稅率為25% (2018年：25%)。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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9. INCOME TAX EXPENSE (Continued)

The Group's subsidiaries in China are eligible for certain tax credits of 175% deduction rate (“**Super Deduction**”) on certain research and development expenses for the year ended December 31, 2019 (2018: 75%). The Directors have made their best estimate for the Super Deduction to be claimed for the entities in ascertaining their assessable profits during the reporting period.

Income tax expense for the year is reconciled to the profit before tax per the consolidated statement of profit or loss and other comprehensive income as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Profit before tax	除稅前溢利	209,067	448,510
Tax at applicable income tax rate of 25%	按適用所得稅稅率25%計算的稅項	52,267	112,128
Tax deduction due to preferential tax rate	因優惠稅率而扣減稅項	(28,746)	(38,705)
Tax effect of share of profit of associates	應佔聯營公司溢利的稅務影響	(5,134)	(4,194)
Tax effect of research and development expenses super deduction	研發超額抵扣之稅務影響	(1,532)	(836)
Tax effect of income not taxable for tax purpose	毋須課稅收入之稅務影響	-	(37,142)
Tax effect of expenses that are not deductible for tax purpose	不可扣稅開支之稅務影響	6,651	14,053
Utilisation of tax losses previously not recognised	動用先前未確認之稅項虧損	(67)	(113)
Tax effect of tax losses not recognised	未確認稅項虧損之稅務影響	159	2,482
Withholding income tax on earnings (note 21)	盈利的預扣所得稅 (附註21)	2,855	8,018
Tax charge for the year	年內稅務支出	26,453	55,691

9. 所得稅開支（續）

本集團的中國附屬公司合資格就截至2019年12月31日止年度的若干研發開支的175%（2018年：75%）作為可扣稅開支（「超額抵扣」）。董事在確定報告期內的應課稅溢利時，已就實體可申索的超額抵扣作出最佳估計。

年內所得稅開支可與綜合損益及其他全面收益表所示除稅前溢利對賬如下：

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10. PROFIT FOR THE YEAR

10. 年內溢利

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Profit for the year has been arrived at after charging (crediting):	年內溢利乃經扣除(計入)以下各項後得出:		
Staff costs, including directors' remuneration set out in note 13	員工成本(包括董事薪酬)載列於附註13		
Salaries and other benefits	薪資及其他福利	204,297	155,927
Contributions to retirement benefits scheme	退休福利計劃供款	20,958	18,758
Share-based payment expenses (note 41)	以股份為基礎的付款開支(附註41)	3,317	8,442
Total staff costs	員工成本總額	228,572	183,127
Gross rental income from investment properties	投資物業租金收入總額	(2,989)	(2,160)
Less: Direct operating expense (including depreciation) incurred for investment properties that generated rental income during the year (included in other income and expense and other gains and losses)	減: 年內產生租金收入的投資物業產生的直接營運開支(包括折舊)(計入其他收入及開支以及其他收益和虧損)		
		634	634
		(2,355)	(1,526)
Cost of inventories recognised as expenses (included in cost of sales and services)	確認為開支的存貨成本(計入銷售及服務成本)	496,908	541,325
Minimum lease payments in respect of operating leases	有關經營租賃的最低租賃付款	-	10,503
Depreciation of property, plant and equipment	物業、廠房及設備折舊	23,314	11,153
Depreciation of investment properties	投資物業折舊	634	634
Amortisation of intangible assets (included in cost of sales and services)	無形資產攤銷(計入銷售及服務成本)	54,358	36,851
Auditor's remuneration	核數師薪酬	2,600	2,340



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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11. DIVIDENDS

Dividends for ordinary shareholders of the Company recognised as distribution during the year:	年內確認為分派的本公司普通股股東獲派股息：
2018 Final – HK9 cents (2018: no dividend) per share	2018年末期股息 – 每股9港仙（2018年：無派息）

2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
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79,766

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Subsequent to the end of the reporting period, a final dividend in respect of the year ended 31 December 2019 of HK3.15 cents per ordinary share, in an aggregate amount of HK\$31,724,000 (approximately RMB28,907,000), has been proposed by the directors of the Company and is subject to approval by the shareholders in the forthcoming general meeting. Final dividend in respect of the year ended 31 December 2018 of HK9 cents per ordinary share, in an aggregate amount of approximately HK\$90,756,000 (approximately RMB79,766,000), had been paid during the current year.

於報告期末後，本公司董事建議就截至2019年12月31日止年度派付末期股息每股普通股3.15港仙（總金額為31,724,000港元（約人民幣28,907,000元）），惟須經股東在即將舉行的股東大會上批准。截至2018年12月31日止年度之末期股息每股普通股9港仙（總金額約為90,756,000港元（約人民幣79,766,000元））已於本年度內派付。

12. EARNINGS PER SHARE

The calculation of the basic and diluted earnings per share attributable to the owners of the Company is based on the following data:

12. 每股盈利

本公司持有人應佔每股基本及攤薄盈利乃基於以下數據計算：

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Earnings:	盈利：		
Earnings for the purpose of calculating earnings per share (profit for the year attributable to owners of the Company) – basic	計算每股盈利的盈利（本公司擁有人應佔年內溢利）– 基本	182,537	394,359
Effect of dilutive potential ordinary shares:	攤薄潛在普通股的影响：		
Change in fair value of convertible ordinary shares	可轉換普通股之公允價值變動	–	(133,541)
Earnings for the purpose of calculating earnings per share (profit for the year attributable to owners of the Company) – diluted	計算每股盈利的盈利（本公司擁有人應佔年內溢利）– 攤薄	182,537	260,818



12. EARNINGS PER SHARE (Continued)

Number of shares:

		2019 2019年 Number of shares 股份數目	2018 2018年 Number of shares 股份數目
Weighted average number of ordinary shares for the purpose of calculating basic earnings per share	計算每股基本盈利的普通股加權平均數	1,008,248,547	899,546,295
Effects of dilutive potential ordinary share:	具攤薄潛力普通股的影响：		
Convertible ordinary shares	可轉換普通股	-	64,750,277
Pre-IPO Share Award Scheme	首次公开发售前股份奖励计划	3,881,941	3,613,585
<hr/>			
Weighted average number of ordinary shares for the purpose of calculating diluted earnings per share	計算每股攤薄盈利的普通股加權平均數	1,012,130,488	967,910,157

The weighted average number of ordinary shares shown above has been arrived at after deducting the treasury shares.

The calculation of diluted earnings per share for the year ended 31 December 2018 does not assume the exercise of the over-allotment option granted upon Listing since the exercise price of the option is higher than the average market price during the exercisable period.

12. 每股盈利(續)

股份數目：

上表所示普通股加權平均數乃經扣除庫存股份後得出。

截至2018年12月31日止年度每股攤薄盈利的計算並未假設於所授出的超額配股權於上市後的行使，因為購股權的行使價高於行使期內的平均市價。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
截至2019年12月31日止年度

13. DIRECTORS', CHIEF EXECUTIVES' AND EMPLOYEES' EMOLUMENTS

Directors and chief executives

Details of the emoluments paid to the Directors and the Chief Executive Officer of the Company during the years reported are as follows:

For the year ended 31 December 2019:

		Directors' fee	Salaries and other allowances	Retirement benefit scheme contributions	Total
		RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元
Executive directors:	執行董事：				
Mr. Cheng Liquan Richard	程里全先生	-	850	51	901
Mr. Zeng Zhijun (Chief Executive)	曾之俊先生 (行政總裁)	-	850	51	901
Sub-total	小計	-	1,700	102	1,802

The executive directors' emoluments shown above were for their services in connection with the management of the affairs of the Company and the Group.

上文所列執行董事的酬金乃就管理本公司及本集團事務所提供服務而支付。

Non-executive directors:	非執行董事：				
Mr. Zheng Tony Tuo	鄭拓先生	-	-	-	-
Mr. Zhu Weihang	朱偉航先生	-	-	-	-
Mr. Chen Xue	陳學先生	-	-	-	-
Sub-total	小計	-	-	-	-

The non-executive directors' emoluments shown above were for their services as directors of the Company and its subsidiaries, if applicable.

上文所列非執行董事的酬金乃就擔任本公司及其附屬公司（如適用）的董事所提供服務而支付。

13. 董事、主要行政人員及僱員酬金

董事及主要行政人員

於報告年度，支付予本公司董事及行政總裁的酬金詳情如下：

截至2019年12月31日止年度：



13. DIRECTORS', CHIEF EXECUTIVES' AND EMPLOYEES' EMOLUMENTS (Continued)

13. 董事、主要行政人員及僱員酬金(續)

Directors and chief executives (Continued)

董事及主要行政人員(續)

		Directors' fee	Salaries and other allowances	Retirement benefit scheme contributions	Total
		RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元
Independent non-executive directors:	獨立非執行董事：				
Mr. Liu Gengyu	劉根鈺先生	100	-	-	100
Mr. Xie Guozhong	謝國忠先生	100	-	-	100
Mr. Lu Zhifang	陸志芳先生	100	-	-	100
Sub-total	小計	300	-	-	300
The independent non-executive directors' emoluments shown above were for their services as directors of the Company.		上文所列獨立非執行董事的酬金乃就擔任本公司董事所提供服務而支付。			
Total	總計				2,102



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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13. DIRECTORS', CHIEF EXECUTIVES' AND EMPLOYEES' EMOLUMENTS (Continued)

Directors and chief executives (Continued)

For the year ended 31 December 2018:

		Directors' fee	Salaries and other allowances	Retirement benefit scheme contributions	Total
		RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元
Executive directors:	執行董事：				
Mr. Cheng Liquan Richard	程里全先生	-	850	58	908
Mr. Zeng Zhijun	曾之俊先生	-	850	58	908
Sub-total	小計	-	1,700	116	1,816
The executive directors' emoluments shown above were for their services in connection with the management of the affairs of the Company and the Group.		上文所列執行董事的酬金乃就管理本公司及本集團事務所提供服務而支付。			
Non-executive directors:	非執行董事：				
Mr. Zheng Tony Tuo	鄭拓先生	-	-	-	-
Mr. Zhu Weihang	朱偉航先生	-	-	-	-
Mr. Chen Xue	陳學先生	-	-	-	-
Sub-total	小計	-	-	-	-
The non-executive directors' emoluments shown above were for their services as directors of the Company and its subsidiaries, if applicable.		上文所列非執行董事的酬金乃就擔任本公司及其附屬公司（如適用）的董事所提供服務而支付。			

13. 董事、主要行政人員及僱員酬金（續）

董事及主要行政人員（續）

截至2018年12月31日止年度：



13. DIRECTORS', CHIEF EXECUTIVES' AND EMPLOYEES' EMOLUMENTS (Continued)

13. 董事、主要行政人員及僱員酬金(續)

Directors and chief executives (Continued)

董事及主要行政人員(續)

		Directors' fee	Salaries and other allowances	Retirement benefit scheme contributions	Total
		董事袍金	薪金及其他津貼	退休福利計劃供款	總計
		RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元
Independent non-executive directors:	獨立非執行董事：				
Mr. Liu Gengyu	劉根鈺先生	100	–	–	100
Mr. Xie Guozhong	謝國忠先生	100	–	–	100
Mr. Lu Zhifang	陸志芳先生	100	–	–	100
Sub-total	小計	300	–	–	300
The independent non-executive directors' emoluments shown above were for their services as directors of the Company.		上文所列獨立非執行董事的酬金乃就擔任本公司董事所提供服務而支付。			
Total	總計				2,116

The emoluments of the Directors and chief executives shown above were mainly for their management services rendered to the Company and the Group and were determined by the remuneration committee having regard to the performance of individuals and market trends.

以上所示董事及主要行政人員的酬金主要就是就彼等提供予本公司及本集團的管理服務而支付，並由薪酬委員會經計及個人表現及市場趨勢後釐定。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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13. DIRECTORS', CHIEF EXECUTIVES' AND EMPLOYEES' EMOLUMENTS (Continued)

Employees

The five highest paid individuals of the Group included two (2018: two) directors for the year ended 31 December 2019, whose emoluments are included in the disclosures above. The emoluments of the remaining three (2018: three) individuals for the years ended 31 December 2019 are as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Salaries and other benefits	薪金及其他福利	1,560	1,560
Retirement benefit scheme contributions	退休福利計劃供款	51	58
Equity-settled share-based expense	權益結算以股份為基礎的付款	403	1,025
		2,014	2,643

The five highest paid individuals, including two directors, whose emoluments were within the following bands:

		Number of employees 僱員人數	
		2019 2019年	2018 2018年
Nil to HKD1,000,000	零至1,000,000港元	3	3
HKD1,000,001 to HKD1,500,000	1,000,001港元至1,500,000港元	2	2
		5	5

During the year, no remuneration was paid by the Group to the Directors or the top five highest paid employees as an inducement to join or upon joining the Group or as compensation for loss of office (2018: nil). None of the Directors has waived any remuneration during the year (2018: nil).

Details of the share option scheme are set out in note 41 to the Group's consolidated financial statements.

13. 董事、主要行政人員及僱員酬金（續）

僱員

截至2019年12月31日止年度，本集團的五名最高薪酬人士包括兩名董事（2018年：兩名），其酬金載於上文的披露。截至2019年12月31日止年度，餘下三名人士（2018年：三名）的酬金如下：

五名最高薪酬人士（包括兩名董事）的酬金介於以下範圍：

於本年度，本集團並無向任何董事或五名最高薪酬僱員支付薪酬作為誘使加入或於加入本集團時之獎勵或離職時之補償（2018年：無）。於本年度，概無董事放棄任何薪酬（2018年：無）。

購股權計劃詳情載於本集團綜合財務報表附註41。



14. PROPERTY, PLANT AND EQUIPMENT

14. 物業、廠房及設備

		Owned properties 自置物業 RMB'000 人民幣千元	Leasehold lands 租賃土地 RMB'000 人民幣千元	Leased properties 租賃物業 RMB'000 人民幣千元	Motor vehicles 汽車 RMB'000 人民幣千元	Fixtures and equipment 裝置及設備 RMB'000 人民幣千元	Construction in progress 在建工程 RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
COST 成本								
At 1 January 2018	於2018年1月1日	32,716	-	-	16,307	47,741	57	96,821
Additions	添置	5,567	-	-	2,646	8,193	16,135	32,541
Disposals	出售	-	-	-	(852)	(752)	-	(1,604)
At 31 December 2018	於2018年12月31日	38,283	-	-	18,101	55,182	16,192	127,758
Adjustments upon application of IFRS 16	於應用國際財務報告準則 第16號時調整	-	-	18,406	-	-	-	18,406
At 1 January 2019 (restated)	於2019年1月1日(重列)	38,283	-	18,406	18,101	55,182	16,192	146,164
Additions	添置	108,793	17,050	-	931	168,760	66	295,600
Transfer	轉撥	-	-	-	-	16,192	(16,192)	-
Disposals	出售	-	-	-	(1,031)	(2,254)	(66)	(3,351)
At 31 December 2019	於2019年12月31日	147,076	17,050	18,406	18,001	237,880	-	438,413
ACCUMULATED DEPRECIATION 累計折舊								
At 1 January 2018	於2018年1月1日	(7,716)	-	-	(11,175)	(10,909)	-	(29,800)
Charge for the year	年內支出	(1,073)	-	-	(1,595)	(10,212)	-	(12,880)
Elimination on disposals	出售時撇銷	-	-	-	833	2,419	-	3,252
At 31 December 2018	於2018年12月31日	(8,789)	-	-	(11,937)	(18,702)	-	(39,428)
Charge for the year	年內支出	(2,042)	(28)	(9,472)	(1,573)	(10,199)	-	(23,314)
Elimination on disposals	出售時撇銷	-	-	-	976	1,106	-	2,082
At 31 December 2019	於2019年12月31日	(10,831)	(28)	(9,472)	(12,534)	(27,795)	-	(60,660)
CARRYING VALUES 賬面值								
At 31 December 2019	於2019年12月31日	136,245	17,022	8,934	5,467	210,085	-	377,753
At 31 December 2018	於2018年12月31日	29,494	-	-	6,164	36,480	16,192	88,330



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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14. PROPERTY, PLANT AND EQUIPMENT (Continued)

During the current year, the Group has completed the acquisition of a sewage treatment center from an independent third party with a consideration of RMB300,000,000 (RMB269,329,000 after deduction of value added tax borne by the seller). The Group is also obliged to pay the land premium to the local government of RMB17,050,000.

The above items of property, plant and equipment, other than construction in progress, after taking into account their estimated residual value of 5% of the cost, are depreciated on a straight-line basis with the following expected useful lives:

Leasehold land and building	30 – 50 years
Motor vehicles	5 years
Fixtures and equipment	2 – 20 years

14. 物業、廠房及設備（續）

於本年度，本集團已完成向一名獨立第三方收購污水處理中心，代價為人民幣300,000,000元（經扣除由賣方承擔的增值稅後為人民幣269,329,000元）。本集團亦須向當地政府支付土地溢價人民幣17,050,000元。

除在建工程外，上述物業、廠房及設備項目經計及其成本5%的估計剩餘價值後按以下預期可使用年期以直線法折舊：

租賃土地及樓宇	30至50年
汽車	5年
裝置及設備	2至20年



14. PROPERTY, PLANT AND EQUIPMENT (Continued)

Right-of-use assets (included “leasehold lands” and “leased properties” in Property, plant and equipment)

14. 物業、廠房及設備(續)

使用權資產(包括物業、廠房及設備內的「租賃土地」及「租賃物業」)

		Leasehold lands	Leased properties	Total
		租賃土地	租賃物業	總計
		RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元
At 1 January 2019	於2019年1月1日			
Carrying amount	賬面值	–	18,406	18,406
At 31 December 2019	於2019年12月31日			
Carrying amount	賬面值	17,050	8,934	25,984
For the year ended 31 December 2019	截至2019年12月31日 止年度			
Depreciation charge	折舊開支	(28)	(9,472)	(9,500)
Expense relating to short-term leases	有關短期租賃的開支			284
Total cash outflow for leases	租賃的現金流出總額			24,641
Additions to right-of-use assets	使用權資產增加			17,050

For both years, the Group leases various offices for its operations. Lease contracts are entered into for fixed term of 1 to 2 years. Lease terms are negotiated on an individual basis. In addition, lease liabilities of RMB9,072,000 are recognised with related right-of-use assets of RMB8,906,000 as at 31 December 2019. The lease agreements do not impose any covenants other than the security interests in the leased assets that are held by the lessor. Leased assets may not be used as security for borrowing purposes.

The Group has not obtained the land use right certificates for the leasehold lands with carrying amount of RMB17,050,000 (2018: nil) in which the Group is in the process of obtaining.

於兩個年度，本集團就其營運租賃多個辦公室。租賃合約按1至2年的固定租期訂立。租賃條款乃個別協商。此外，於2019年12月31日確認租賃負債人民幣9,072,000元，其中有關於使用權資產為人民幣8,906,000元。除出租人持有的租賃資產之抵押權益外，租租協議並無施加任何契諾。租賃資產不得用作借款用途的抵押。

本集團並無就賬面值為人民幣17,050,000元(2018年：無)的租賃土地獲取土地使用權證，而本集團仍在申領過程中。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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15. INVESTMENT PROPERTIES

15. 投資物業

		RMB'000 人民幣千元
COST	成本	
At 1 January 2018, 31 December 2018, and 31 December 2019	於2018年1月1日、2018年12月31日及 2019年12月31日	20,871
ACCUMULATED DEPRECIATION	累計折舊	
At 1 January 2018	於2018年1月1日	(7,889)
Provided for the year	年內撥備	(634)
At 31 December 2018	於2018年12月31日	(8,523)
Provided for the year	年內撥備	(634)
At 31 December 2019	於2019年12月31日	(9,157)
CARRYING VALUES	賬面值	
At 31 December 2019	於2019年12月31日	11,714
At 31 December 2018	於2018年12月31日	12,348

The investment properties are the units located on the same floor within the same building in Beijing, the PRC, which are held to earn rentals or for capital appreciation purposes. The investment properties are depreciated on a straight-line basis at the rates of 3.17% per annum, estimated residual value of 5% of the cost.

投資物業為位於中國北京相同樓宇同一樓層的單位，持有以賺取租金或升值。投資物業以直線基準按每年3.17%、成本的估計殘值5%折舊。

The fair value of the Group's investment properties as at 31 December 2019 was RMB56,085,000 (2018: RMB62,450,000) which was determined by the Directors by using direct comparison method based on observable market transaction prices of properties in similar locations. The fair value hierarchy is level 2. In estimating the fair value of the properties, the highest and best use of the properties is their current use.

於2019年12月31日，本集團投資物業的公允價值為人民幣56,085,000元（2018年：人民幣62,450,000元），由董事通過使用直接比較法根據位於類似地點的物業的可觀察市場交易價格釐定。公允價值等級為第二級。於估計該等物業的公允價值時，該等物業的最高及最佳用途為其目前的用途。



16. INTANGIBLE ASSETS

16. 無形資產

		Software	Patents and trademarks	Service concession arrangements	Total
		軟件	專利及商標	服務特許經營安排	總計
		RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元
COST 成本					
At 1 January 2018	於2018年1月1日	12,724	28,774	587,587	629,085
Additions	添置	1,586	–	153,949	155,535
Disposals	出售	–	–	(793)	(793)
At 31 December 2018	於2018年12月31日	14,310	28,774	740,743	783,827
Additions	添置	493	–	284,109	284,602
At 31 December 2019	於2019年12月31日	14,803	28,774	1,024,852	1,068,429
ACCUMULATED AMORTISATION 累計攤銷					
At 1 January 2018	於2018年1月1日	(12,173)	(27,422)	(164,350)	(203,945)
Charge for the year	年內支出	(332)	(979)	(35,540)	(36,851)
Elimination on disposals	出售時撇銷	–	–	793	793
At 31 December 2018	於2018年12月31日	(12,505)	(28,401)	(199,097)	(240,003)
Charge for the year	年內支出	(542)	(326)	(53,490)	(54,358)
At 31 December 2019	於2019年12月31日	(13,047)	(28,727)	(252,587)	(294,361)
CARRYING VALUES 賬面值					
At 31 December 2019	於2019年12月31日	1,756	47	772,265	774,068
At 31 December 2018	於2018年12月31日	1,805	373	541,646	543,824



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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16. INTANGIBLE ASSETS (Continued)

The Group has entered into a number of service concession arrangements with certain power plants which are owned by state owned enterprises in the PRC on a BOT basis in respect of its desulfurisation and denitrification construction and maintenance services. Pursuant to the service concession arrangement contracts, the Group (i) is responsible for the construction of the desulfurisation and denitrification facilities; (ii) has the contractual obligations to maintain the infrastructures at a specified level of serviceability; and (iii) is entitled to operate the facilities upon completion for a specified concession period from 15 to 20 years by receiving the monthly fees, which are determined by on-grid tariff subsidies on a per kilowatt hour basis for power generated by the power plant and settled with the customers on a monthly basis. The Group will not hold any residual interest in the facilities upon expiration of the concession period. As such, these contracts are accounted for as service concession arrangements and intangible assets were recognised upon the completion of construction at amounts equal to stand-alone selling price for provision of construction service.

Intangible assets are stated at cost less accumulated amortisation and any accumulated impairment loss. Service concession arrangements are amortised on a straight-line basis, over the remaining concession period. Other intangible assets are amortised on a straight-line basis based on their estimated useful lives as follows:

Software	5 years
Patents and trademarks	5 years – 15 years

16. 無形資產（續）

本集團按BOT基準就其脫硫及脫硝工程及維護服務與中國國有企業擁有的若干電廠訂立多項服務特許經營安排。根據服務特許經營安排合約，本集團(i)負責建造脫硫及脫硝設施；(ii)承擔按特定可提供服務水平維護基礎設施的合約責任；及(iii)有權於完成後於15至20年內的規定特許經營期透過每月收取費用經營設施，而每月收取的費用乃就發電廠所發電力按每千瓦時上網電價津貼釐定，並每月與客戶結算。本集團於特許經營期屆滿後不再持有設施任何餘下利益。因此，該等合約於完成建造後入賬列作服務特許經營安排及無形資產，並按相等於提供建造服務的獨立出售價格確認。

無形資產按成本減累計攤銷及任何累計減值虧損呈列。服務特許經營安排按餘下特許經營期以直線基準攤銷。其他無形資產乃根據下述估計可使用年期以直線基準攤銷：

軟件	5年
專利及商標	5年至15年



17. RECEIVABLES UNDER SERVICE CONCESSION ARRANGEMENT

In June 2017, the Group entered into a service concession arrangement with a state owned power plant. Through the arrangement, the Group is involved as an operator (i) paying a specific amount for purchasing the relevant infrastructure for operation under the service concession arrangements; (ii) using the existing infrastructure and upgrading the acquired facilities for provision of services under the service concession arrangements; and (iii) operating and maintaining the infrastructure for the period of 15 years (the "Service Concession Period"), and the Group will be paid for its services over the Service Concession Period at prices stipulated through a pricing mechanism. The Group is entitled to use all of the related infrastructure, however, the power plant, as the grantor, will control and regulate the scope of service that the Group must provide with the infrastructure. The construction or upgrade of this service concession arrangement have been fully completed in December 2018.

The service fee is charged by reference to on-grid tariff subsidies determined on a per kilowatt hour basis as set out in the service concession agreement. However, the Group is entitled to a minimum guaranteed service charge, which is calculated based on the minimum guaranteed on-grid tariff per year and the price agreed in the service concession agreement. Accordingly, the receivables under service concession arrangement was recognised based on the consideration paid by the Group upon the completion of the construction or upgrade of the infrastructure.

17. 服務特許經營安排項下的應收款項

於2017年6月，本集團與一間國有電廠訂立服務特許經營安排。透過該安排，本集團以運營商身份參與(i)就購買服務特許經營安排項下供投運的相關基礎設施支付特定金額；(ii)使用本集團現有基礎設施以及改造所收購設施，以提供服務特許經營安排項下的服務；以及(iii)營運及維持相關基礎設施達15年（「服務特許經營期」），而本集團將於服務特許經營期內就其所提供的服務按通過定價機制所訂明的價格獲取報酬。本集團有權使用所有相關基礎設施，惟電廠將以授予人身份控制並規定本集團須以有關基礎設施提供的服務範疇。該服務特許經營安排的建造或改造已於2018年12月全面完成。

服務費乃經參考按服務特許經營協議所訂明的每千瓦時基準計算的上網電價津貼收取。然而，本集團有權享有最低擔保服務費用，而該費用乃根據每年最低擔保上網電價及服務特許經營協議所規定的價格計算。因此，服務特許經營安排的應收款項按完成基礎設施建造或改造後本集團所付代價確認。



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17. RECEIVABLES UNDER SERVICE CONCESSION ARRANGEMENT (Continued)

The receivables under service concession arrangement arose from the minimum service charge guaranteed by the power plant was as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Current portion	即期部分	20,201	12,526
Non-current portion	非即期部分	356,429	367,029
		376,630	379,555
Expected collection schedule is analysed as follows:	預計收款時間如下：		
Within one year	一年內	20,201	12,526
More than one year, but not more than two years	一年以上但不超過兩年	21,488	18,981
More than two years but not more than five years	兩年以上但不超過五年	73,031	88,811
More than five years	五年以上	261,910	259,237
		376,630	379,555

The Group accounts for the receivables under service concession arrangement based on the present value of the estimated annual minimum service charge in the Service Concession Period by applying an implied interest rate of 6.37% which is calculated based on the significant financing component implied in the contract.

17. 服務特許經營安排項下的應收款項（續）

由電廠保證的最低服務費用產生之服務特許經營安排項下的應收款項如下：

本集團將服務特許經營安排項下應收款項按服務特許經營期的估計年度最低服務費的現值應用基於合約中隱含的重大融資部分計算的隱含利率6.37%入賬。



17. RECEIVABLES UNDER SERVICE CONCESSION ARRANGEMENT (Continued)

The grantor under the service concession arrangement is a state owned power plant in which the default risk is generally perceived to be low. The Directors consider that there was no significant change in credit risk in the year ended 31 December 2019, and thus measure the loss allowance for receivables under service concession arrangement at an amount equal to 12m ECL, which is RMB3,717,000 (2018: RMB3,518,000). While the Company consider the credit risk is low, the collection of receivables under service concession arrangement is closely monitored by the Company in order to minimise any credit risk associated with the receivables.

Movement in 12-month ECL that has been recognised for receivables under service concession arrangement for the year ended 31 December 2019 is as follows:

17. 服務特許經營安排項下的應收款項(續)

服務特許經營安排項下的授予人為違約風險被普遍認為較低的國有電廠。董事認為，截至2019年12月31日止年度的信貸風險並無重大變動，因此將服務特許經營安排項下的應收款項虧損撥備計成等於12個月預期信貸虧損的金額，即人民幣3,717,000元(2018年：人民幣3,518,000元)。儘管本公司認為信貸風險較低，本公司密切監察服務特許經營安排項下應收款項的收款情況以減低任何與應收款項有關的信貸風險。

於截至2019年12月31日止年度，就服務特許經營安排項下的應收款項確認之12個月預期信貸虧損如下：

		RMB'000 人民幣千元
At 1 January 2018	於2018年1月1日	3,673
Reversal of receivables under service concession arrangement	服務特許經營安排項下的應收款項撥回	(155)
At 31 December 2018	於2018年12月31日	3,518
Allowance for receivables under service concession arrangement	服務特許經營安排項下的應收款項撥備	199
At 31 December 2019	於2019年12月31日	3,717



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18. INVESTMENT IN ASSOCIATES

18. 於聯營公司的投資

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Cost of investment in associates	於聯營公司投資的成本	36,980	33,000
Share of profit of associates, net of dividend received	分佔聯營公司溢利 (扣除已收股息)	45,907	36,537
		82,887	69,537

As at 31 December 2019 and 2018, the Group had interests in the following associate:

於2019年及2018年12月31日，本集團於以下聯營公司擁有權益：

Name of entity 實體名稱	Place of registration 註冊地點	Place of operation 經營地點	Proportion of ownership interest and voting rights held by the Group 本集團的擁有權權益及 所持投票權比例		Principal activity 主要業務
			2019 2019年	2018 2018年	
漢川龍源博奇環保科技有限公司 Han Chuan Long Yuan BoQi Environmental Technology Co., Ltd. ("Han Chuan Long Yuan") 漢川龍源博奇環保科技有限公司 (「漢川龍源」)	The PRC 中國	The PRC 中國	30%	30%	Operation of environmental protection facilities 經營環保設施
慧感(上海)物聯網科技有限公司 Shanghai Smart Sensing IOT Technology Co., Ltd. ("Shanghai Smart Sensing") (note) 慧感(上海)物聯網科技有限公司 (「上海慧感」)(附註)	The PRC 中國	The PRC 中國	17%	N/A 不適用	Internet of Things technology development, transfer and consulting services 物聯網技術開發、 轉移及諮詢服務

**18. INVESTMENT IN ASSOCIATES (Continued)**

Note: The Group holds less than 20% equity interest in these investees. The Group has the right to appoint 1 out of 5 directors of the board and has the power to participate in the financial and operating policy decisions of the investee. Accordingly, the Group has the power to exercise significant influence over the investee.

The associate is accounted for using the equity method in the consolidated financial statements. The summarised financial information in respect of a material associate, Han Chuan Long Yuan, is set out below:

18. 於聯營公司的投資(續)

附註：本集團持有該等被投資公司少於20%權益。本集團可委任被投資公司董事會的五分之一成員，並有權參與被投資公司的財務及經營決策。因此，本集團有權對被投資公司行使重大影響力。

聯營公司於綜合財務報表中使用權益法入賬。主要聯營公司漢川龍源的財務資料概述如下：

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Total assets	總資產	467,192	461,026
Total liabilities	總負債	(198,527)	(229,236)
Net assets	資產淨值	268,665	231,790
Revenue	收益	286,974	241,146
Profit and total comprehensive income for the year	年內溢利及全面收益總額	120,761	93,209
Dividend received from the associate during the year	年內自聯營公司收取的股息	25,171	28,524



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18. INVESTMENT IN ASSOCIATES (Continued)

Reconciliation of the above summarised financial information to the carrying amount of the interest in the associate recognised in the consolidated financial statements:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Net assets of Han Chuan Long Yuan	漢川龍源的淨資產	268,665	231,806
Proportion of the Group's ownership interest in Han Chuan Long Yuan	本集團於漢川龍源的所有權權益百分比	30%	30%
The Group's share of net assets of Han Chuan Long Yuan	本集團所佔漢川龍源的淨資產	80,560	69,542

19. EQUITY INSTRUMENT AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

In the current year, the Group disposed of the investment in BOCH JACO Environmental Co., Ltd., at a consideration of RMB996,000, which was also the fair value as at the date of disposal as the investment no longer meets the investment objective of the Group.

18. 於聯營公司的投資（續）

上述財務資料概要與綜合財務報表內確認的聯營公司權益對賬如下：

19. 按公允價值計入其他全面收益的股本工具

於本年度，由於有關投資不再達到本集團的投資目標，本集團出售於武漢博奇玉宇環保股份有限公司的投資，代價為人民幣996,000元（亦為出售當日的公允價值）。



20. DEBT INSTRUMENT AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

The amounts represent notes receivables. The Directors recognised the notes receivables, with fixed rate and maturity date, as debt instrument at FVTOCI, as they held these notes for the purpose of cash collection and discounting. The Directors assessed the expected credit loss risk of notes receivable as low, mainly because the notes were secured by the drawer's bank deposit and the default risk was low. The Directors assess the fair value of all notes receivables approximate to their carrying amount as the maturity dates are within 6 months.

21. DEFERRED TAX

The following is the analysis of the deferred tax balances for financial reporting purposes:

20. 按公允價值計入其他全面收益的債務工具

有關金額指應收票據。董事將有固定利率及到期日的應收票據確認為按公允價值計入其他全面收益的債務投資，原因為持有該等票據的目的為收取現金及貼現。董事確定應收票據的預期信貸虧損風險較低，主要因為票據由出票人的銀行存款擔保，違約風險較低。由於應收票據的到期日為6個月內，董事確定所有應收票據的公允價值與其賬面值相約。

21. 遞延稅項

就財務申報而言，遞延稅項結餘分析如下：

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Deferred tax assets	遞延稅項資產	33,061	25,121
Deferred tax liabilities	遞延稅項負債	(10,873)	(8,018)
		22,188	17,103



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21. DEFERRED TAX (Continued)

The following are the deferred tax assets and deferred tax liabilities recognised and movement thereon during the years reported:

		Allowance for credit losses and inventories	Change in fair value of equity instrument at FVTOCI 按公允價值 計入其他全面 收益的股本 信貸虧損 撥備及存貨	Provision for onerous contracts 虧損 合約撥備	Accrued expenses 應計開支	Patent 專利	Withholding tax on the earnings anticipated to be distributed by subsidiaries 預期附屬公司 將分派的 盈利的預扣稅	Total 總計
		RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元
At 1 January 2018	於2018年1月1日	6,256	(990)	5,755	9,996	2,719	-	23,736
(Charged) credit to profit or loss	(扣除自)計入損益	(101)	-	(1,390)	2,218	(161)	(8,018)	(7,452)
Charged to other comprehensive income	扣除自其他全面收益	-	819	-	-	-	-	819
At 31 December 2018	於2018年12月31日	6,155	(171)	4,365	12,214	2,558	(8,018)	17,103
Credit (charged) to profit or loss	計入(扣除自)損益	658	-	1,604	5,668	(161)	(2,855)	4,914
Charged to other comprehensive income	扣除自其他全面收益	-	171	-	-	-	-	171
At 31 December 2019	於2019年12月31日	6,813	-	5,969	17,882	2,397	(10,873)	22,188

21. 遞延稅項（續）

下列為於報告年間的已確認遞延稅項資產及遞延稅項負債及其變動：



21. DEFERRED TAX (Continued)

As at 31 December 2019, the Group has unused tax loss of RMB21,448,000 (2018: RMB22,557,000), available for offset against future profits for the consecutive five years and will expire between 2020 and 2024. No deferred tax assets have been recognised in respect of such tax losses due to the unpredictability of future profit streams.

Deferred tax assets is recognised if it is probable that all of the deferred tax assets will be realised through the recovery of taxes previously paid and/or future taxable income. The Directors have reviewed its deferred tax assets at the end of the reporting period and considered that it was probable that the deferred tax assets of the Group will be realised through future taxable income based on the Directors' assessment of the probability that taxable profits will be available over the year which the deferred tax assets can be realised or utilised.

According to the relevant tax law in the PRC, dividend distributed to foreign investors out of the profit generated from 1 January 2008 onwards shall be subject to withholding tax at 10% and withheld by the PRC entities, pursuant to Articles 3 and 37 of the EIT Law and Article 91 of its Detailed Rules for the Implementation of the Regulation.

As at 31 December 2019, the Group recognised the relevant deferred tax liabilities of RMB10,873,000 (2018: RMB8,018,000) on earnings anticipated to be remitted by certain subsidiaries in the foreseeable future. At the end of the reporting period, the aggregate amount of temporary differences associated with undistributed earnings of subsidiaries for which deferred tax liabilities have not been recognised was RMB895,959,000 (2018: RMB781,314,000).

21. 遞延稅項(續)

於2019年12月31日，本集團的未動用稅項虧損為人民幣21,448,000元(2018年：人民幣22,557,000元)，可用於抵銷連續五年的未來溢利並將於2020年至2024年期間到期。由於未來稅項溢利流量無法預測，故並無就該等稅項虧損確認遞延稅項資產。

遞延稅項資產於所有遞延稅項資產可透過收回先前已付的稅項及／或未來應課稅收入變現時予以確認。董事已審閱其於報告期末的遞延稅項資產，並基於董事對於遞延稅項資產可獲變現或動用年度內出現應課稅溢利的可能性評估，認為本集團的遞延稅項資產可透過日後的應課稅收入變現。

根據中國相關稅法，按企業所得稅法第3及37條以及其實施條例細則第91條，中國實體須就自2008年1月1日以來產生的溢利向海外投資者分派的股息繳納10%的預扣稅。

於2019年12月31日，本集團就預計若干附屬公司於可預見未來將匯出的盈利確認相關的遞延所得稅負債人民幣10,873,000元(2018年：人民幣8,018,000元)。於報告期末，並無確認遞延稅項負債的附屬公司未分配盈利相關的暫時差異總額為人民幣895,959,000元(2018年：人民幣781,314,000元)。



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22. INVENTORIES

22. 存貨

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Equipments, supplies and spare parts	設備、材料及備件	29,032	37,958
Allowance for inventories	存貨撥備	(117)	(117)
		28,915	37,841

23. CONTRACT ASSETS AND CONTRACT LIABILITIES

23. 合約資產及合約負債

The Group has rights to considerations from customers for the provision of construction, operation and maintenance services. Contract assets arise when the Group has rights to considerations for completion of such services and not yet billed under the relevant contracts, and their rights are conditioned on factors other than passage of time. Any amount previously recognised as a contract assets are transferred to trade receivables when the rights become unconditional. Remaining rights and performance obligations in a particular contract are accounted for and presented on a net basis, as either a contract asset or a contract liability.

本集團有權就提供工程、營運及維護服務向客戶收取代價。合約資產於本集團有權就完成有關服務且尚未根據相關合約收費收取代價時產生，而其權利以隨著時間流逝以外的因素為條件。先前確認為合約資產的任何款項於有關權利成為無條件時轉移為貿易應收款項。個別合約內的餘下權利及履約責任按淨額基準入賬並呈列為合約資產或合約負債。

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Construction contracts analysed for reporting purposes as follows:	供呈報用途作分析的建造合約如下：		
Contract assets	合約資產	346,602	204,289
Contract liabilities	合約負債	(102,390)	(115,651)



23. CONTRACT ASSETS AND CONTRACT LIABILITIES (Continued)

The contract assets primarily relate to the Group's right to consideration for work completed and not billed because the rights are conditioned on the Group's future performance. The contract assets are transferred to trade receivables when the rights become unconditional. The Group typically reclassifies contract assets to trade receivables on the date of issue of invoice or billing with the customers when such right of collections becomes unconditional other than the passage of time.

The Group classified these contract assets and contract liabilities as current because the Group expects to realise them in its normal operating cycle.

The significant increase of contract assets in the current year is the result of the increase in ongoing installation services at the end of the year.

Revenue recognised during the current year amounting to RMB60,189,000 (2018: RMB20,614,000) was included in the contract liability balance at the beginning of the respective year. There is no revenue recognised in the current year related to performance obligations that were satisfied in prior periods.

Movement in lifetime ECL that has been recognised for contract assets in accordance with the simplified approach set out in IFRS 9 is as follows:

23. 合約資產及合約負債(續)

合約資產主要關於本集團就已完成且未收費的工程收取代價的權利，此乃由於該等權利以本集團未來的履行作為條件。當該等權利變為無條件時，合約資產即轉移為貿易應收款項。本集團一貫於發出發票日期或與客戶計費日期，即當該等收回款項權利非隨著時間流逝變為無條件時，將合約資產重新分類至貿易應收款項。

本集團將此等合約資產及合約負債分類為即期，此乃由於本集團預期於其正常營運周期內變現此等合約資產及合約負債。

本年度合約資產大幅增加是由於年末的持續安裝服務增加所致。

於本年度確認的收益為人民幣60,189,000元(2018年：人民幣20,614,000元)，於有關年初計入合約負債結餘內。於本年度並無就過往期間確認有關履約責任的收益。

根據國際財務報告準則第9號簡化方法就合約資產確認的全期預期信貸虧損變動如下：

		RMB'000 人民幣千元
At 1 January 2018	於2018年1月1日	5,833
Allowance	撥備	1,278
At 31 December 2018	於2018年12月31日	7,111
Reversal	撥回	(3,004)
At 31 December 2019	於2019年12月31日	4,107



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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24. TRADE RECEIVABLES

24. 貿易應收款項

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Trade receivables arising from contracts with customers	來自客戶合約的貿易應收款項	610,876	802,046
Less: Allowance for credit losses	減：信貸虧損撥備	(19,945)	(22,976)
		590,931	779,070

The Group generally grants credit period between 30 to 90 days which are agreed with each of its trade customers. The extension of credit period to the customers may be granted on a discretionary basis by considering customer type, the current creditworthiness and the customer's financial condition and payment history with the Group.

本集團一般授出的客戶信貸期介乎30至90日，乃與其各貿易客戶協定。本集團考慮客戶之類別、其目前信譽及財政狀況，以及其與本集團之過往付款紀錄而酌情向客戶授予延長信貸期。

As at 1 January 2018, trade receivables from contracts with customers amounted to RMB632,840,000.

於2018年1月1日，來自客戶合約的貿易應收款項為人民幣632,840,000元。

Aging analysis of trade receivables net of allowance for credit losses based on date of revenue recognition is as follows:

按確認收益日期呈列之貿易應收款項（扣除信貸虧損撥備）之賬齡分析如下：

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
1 – 90 days	1至90日	384,520	448,239
91 – 180 days	91至180日	21,209	75,851
181 – 365 days	181至365日	32,523	121,812
1 – 2 years	1至2年	110,461	81,775
2 – 3 years	2至3年	22,568	18,454
Over 3 years	超過3年	19,650	32,939
		590,931	779,070

**24. TRADE RECEIVABLES (Continued)**

As at 31 December 2019, included in the Group's trade receivables balance are debtors with aggregate carrying amount of RMB206,411,000 (2018: RMB330,831,000) which are past due for more than 90 days and are not considered as in default because these customers of the Group's business are sizeable power plant, state-owned or listed companies with strong financial position. The management of the Group considers the trade receivables to be in default when the debtors do not repay any trade receivables through the Group has pursued for several times, which indicates the Group may not collect these trade receivables. The Group does not hold any collateral over these balances.

Movement in lifetime ECL that has been recognised for trade receivables in accordance with the simplified approach set out in IFRS 9 is as follows:

		RMB'000 人民幣千元
At 1 January 2018	於2018年1月1日	27,043
Allowance for trade receivables	貿易應收款項撥備	324
Write-off as uncollectible	因不可收回而撇銷	(4,391)
At 31 December 2018	於2018年12月31日	22,976
Allowance for trade receivables	貿易應收款項撥備	4,882
Reversal of trade receivables	貿易應收款項撥回	(100)
Write-off as uncollectible	因不可收回而撇銷	(7,813)
At 31 December 2019	於2019年12月31日	19,945

The Group writes off a trade receivable when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery. The Group has taken legal action against the debtors to recover the amount due.

Details of impairment assessment of trade receivables are set out in note 37.

24. 貿易應收款項(續)

於2019年12月31日，包括於本集團貿易應收款項結餘為總賬面值人民幣206,411,000元的債務人欠款(2018年：人民幣330,831,000元)，已逾期超過90日而不被認為已違約，原因是這些本集團業務的客客戶為具規模的電廠、具強勁財務狀況的國有或上市公司。本集團管理層認為，在本集團已多次催促還款而債務人仍未償還任何貿易應收款項，顯示本集團未必可收回該等貿易應收款項的情況下，該等貿易應收款項方被視為違約。本集團並無就該等結餘持有任何抵押品。

已根據國際財務報告準則第9號簡化方法確認的貿易應收款項全期預期信貸虧損的變動如下：

尚有資料顯示債務人處於嚴重財務困難及無實際期望可收回欠款，本集團撇銷貿易應收款。本集團已向債務人採取法律行動以收回逾期款項。

貿易應收款項的減值評估載於附註37。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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25. TRANSFERS OF FINANCIAL ASSETS

As at 31 December 2019, unmatured notes receivables amounting to RMB106,054,000 (2018: RMB66,368,000) issued by certain listed banks were discounted to banks, and RMB74,208,000 (2018: nil) issued by certain listed banks were endorsed to suppliers. In the opinion of the directors of the Company, the Group has transferred the significant risks and rewards relating to these notes receivables, and the Group's obligations to the corresponding counterparties were discharged in accordance with the commercial practice in the PRC and the risk of default in payment of the endorsed and discounted notes receivables is low because all these are issued and guaranteed by the reputable PRC banks. As a result, the relevant assets and liabilities were derecognized on the consolidated financial statements. The maximum exposure to the Group that may result from the default of these endorsed and discounted notes receivables at the end of the reporting period is represented by their carrying amount.

In addition, the following are the Group's financial assets as at 31 December 2019 that were transferred to banks or suppliers by discounting or endorsing the notes receivables on a full recourse basis. As the Group has not transferred substantially all the risks and rewards relating to these receivables, the full carrying amount of the receivables are continuously recognised and the cash received upon the discount and endorse is recorded as a collateralised bank borrowing (see note 31) and trade payables (see note 29). These financial assets are carried at fair value through other comprehensive income in the Group's consolidated statement of financial position as the overall business model is to hold to collect contractual cash flows and to sell.

25. 金融資產轉移

截至2019年12月31日，若干上市銀行發行但尚未到期的金額為人民幣106,054,000元（2018年：人民幣66,368,000元）的應收票據已貼現至銀行，而若干上市銀行發行的金額為人民幣74,208,000元（2018年：無）的票據已向供應商背書。本公司董事認為，本集團已轉移有關該等應收票據的重大風險及回報，而本集團對相關對手方的責任已根據中國商業慣例獲解除，且由於所有票據均由中國國內具聲譽銀行發行及擔保，故償付已背書及貼現的應收票據的違約風險很低。因此，有關資產及負債已在綜合財務報表內終止確認。本集團於報告期末因該等已背書及貼現的應付票據違約所承受的最大風險是指該等票據的賬面值。

此外，以下為本集團於2019年12月31日在完全追索權的基礎上貼現或背書應收票據而轉移至銀行的金融資產。因本集團並無轉移此等應收款項的絕大部分風險及回報，應收款項的整個賬面值持續確認及於貼現及背書後收取的現金列賬為有抵押銀行借款（請參閱附註31）及貿易應付款項（見附註29）。由於本集團的整體商業模式為持有該等金融資產以收取合約現金流量及出售，該等金融資產按公允價值計入全面收益於本集團的綜合財務狀況表列賬。

Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註(續)

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25. TRANSFERS OF FINANCIAL ASSETS (Continued) 25. 金融資產轉移(續)

		2019			2018
		2019年			2018年
		Notes	Notes	Total	Notes
		receivable	receivable		
		discounted	endorsed		discounted
		to banks	to suppliers		
		附完全	附完全		
		追索權的已向	追索權的已向		已貼現
		銀行貼現的	供應商背書的		應收票據
		應收票據	應收票據	總計	RMB'000
		RMB'000	RMB'000	RMB'000	人民幣千元
		人民幣千元	人民幣千元	人民幣千元	
Carrying amount of transferred assets	轉移資產賬面值	46,813	49,910	96,723	38,483
Carrying amount of associated liabilities	相關負債賬面值	(45,968)	(49,910)	(95,878)	(38,483)
Net position	淨額	845	-	845	-



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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26. PREPAYMENTS, DEPOSITS AND OTHER RECEIVABLES 26. 預付款項、按金及其他應收款項

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Prepaid value added tax	預付增值稅	92,413	60,491
Prepayments for project construction cost and project equipment purchase	項目建設成本及購買項目設備之預付款項	52,293	35,759
Project bidding and other deposits	項目招標及其他按金	30,087	23,767
Prepayment for acquisition	收購之預付款項	1,054	–
Others	其他	10,859	3,657
		186,706	123,674
Less: impairment losses on other receivables	減：其他應收款項減值虧損	(1,613)	(484)
		185,093	123,190



26. PREPAYMENTS, DEPOSITS AND OTHER RECEIVABLES (Continued)

Movement in 12-month ECL that has been recognised for other receivables for the year ended 31 December 2019 and 2018 is as follows:

		RMB'000 人民幣千元
At 1 January 2018	於2018年1月1日	359
Allowance for other receivables	其他應收款項撥備	125
At 31 December 2018	於2018年12月31日	484
Allowance for other receivables	其他應收款項撥備	1,423
Written-off as uncollectible	因無法收回而撇銷	(294)
At 31 December 2019	於2019年12月31日	1,613

26. 預付款項、按金及其他應收款項(續)

截至2019年及2018年12月31日止年度，已確認的其他應收款項的12個月預期信貸虧損的變動如下：

27. PLEDGED BANK DEPOSITS

Pledged bank deposits represent amounts held by banks, which are not available for the Group's use, as security for issuance of bills to the Group's suppliers, letters of credit relating to the EPC contracts and the O&M contracts signed with the customers. Upon maturity of the letters of credit and letters of guarantee, the deposits are released by the bank and become available for general use by the Group. Pledged bank deposits of the Group carrying interest at market rates which range from 0.00% to 4.00% per annum as at 31 December 2019 (2018: from 0.30% to 4.00% per annum).

27. 已抵押銀行存款

已抵押銀行存款指由銀行持有而不可由本集團動用，作為向本集團供應商發出票據、有關EPC合約及與客戶簽訂的運維合約的信用狀所作擔保之金額。尚信用狀及擔保函到期時，有關存款獲銀行發放並可由本集團用作一般用途。於2019年12月31日，本集團的已抵押銀行存款按介乎0.00%至4.00%（2018年：介乎0.30%至4.00%）的市場年利率計息。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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28. BANK BALANCES AND CASH

Bank balances and cash of the Group comprises cash held by the Group and bank balances that bear interest at prevailing market rates ranging from 0.00% to 0.35% per annum as at 31 December 2019 (2018: from 0.0001% to 1.50% per annum), with an original maturity of three months or less.

29. TRADE AND NOTES PAYABLES

The credit period on purchases of goods and services is generally 30 to 90 days. The table below sets forth, as at the end of reporting period indicated, the aging analysis of the trade and notes payables based on the invoice or completion report date:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Trade payables	貿易應付款項	814,946	695,360
Notes payables	應付票據	206,784	190,175
Total	總計	1,021,730	885,535

28. 銀行結餘及現金

本集團銀行結餘及現金包括本集團持有的帶息現金及銀行結餘，於2019年12月31日，該等銀行結餘按介乎0.00%至0.35%（2018年：介乎0.0001%至1.50%）的現行市場年利率計息且原到期日為三個月或以下。

29. 貿易應付款項及應付票據

採購貨品及服務之信貸期一般為30至90日。下表載列於所示報告期末根據發票或完成報告日期的貿易應付款項及應付票據之賬齡分析：

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Less than 90 days	少於90日	360,423	349,822
90 – 180 days	90至180日	283,001	194,485
180 days – 1 year	180日至1年	111,083	92,898
1 – 2 years	1至2年	133,897	87,244
2 – 3 years	2至3年	40,411	58,310
Over 3 years	超過3年	92,915	102,776
Total	總計	1,021,730	885,535



30. OTHER PAYABLES, DEPOSITS RECEIVED AND ACCRUED EXPENSES

30. 其他應付款項、已收按金及應計開支

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Payable for assets acquisition (note 14)	資產收購應付款項(附註14)	168,931	-
Accrued expenses	應計開支	109,524	62,772
Accrued payroll and welfare	應計工資及福利	54,315	54,185
Projects deposit received from vendors	自供應商收取的項目按金	41,063	28,863
Other tax payables	其他應付稅項	36,695	57,659
Accrued liabilities (note)	應計負債(附註)	13,126	17,435
Others	其他	11,003	12,769
		434,657	233,683

Note: Accrued liabilities mainly represent the expected loss for onerous contract recorded when it is probable that total contract costs will exceed total contract revenue.

附註：應計負債主要指錄得總合約成本可能超過總合約收益的虧損合約的預期虧損。

During the current year, a machine under the Group's O&M stopped working by fault and the customer claimed operational losses resulted. The maximum exposure for losses occurred was RMB30,000,000. Based on the legal advices and the negotiation with the customer, the Directors believed that the Group is more likely than not to compensate half of the losses occurred, as such, a provision amounting to RMB15,000,000 was recognised.

於本年度，本集團運維業務下的一台機器因故障而停止運作，因此客戶就所導致的操作損失索償。所承擔的最大虧損金額為人民幣30,000,000元。根據法律意見及與客戶的商討，董事相信本集團應有較大機會賠償一半的虧損，因此已確認人民幣15,000,000元的撥備金額。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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31. BORROWINGS

31. 借款

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Analysed as:	分析為：		
Secured bank borrowings carry interest at variable rates	按浮動利率計息的有抵押銀行借款	-	3,000
Secured bank borrowing arose from discounted notes receivables carry interest at fixed rates	按固定利率計息的貼現應收票據產生的有抵押銀行借款	45,968	38,483
Unsecured bank borrowings carry interest at fixed rates	按固定利率計息的無抵押銀行借款	49,500	-
Unsecured bank borrowings carry interest at variable rates	按浮動利率計息的無抵押銀行借款	12,000	24,000
		107,468	65,483
Carrying amount repayable:	應償還賬面值：		
Within one year	一年內	107,468	53,483
More than one year, but not more than two years	一年以上但不超過兩年	-	12,000
		107,468	65,483
Less: Amounts due within one year shown under current liabilities	減：於流動負債呈列的於一年內到期的款項	107,468	53,483
Amounts shown under non-current liabilities	於非流動負債呈列的款項	-	12,000



31. BORROWINGS (Continued)

The amounts due are based on scheduled repayment dates set out in the borrowing agreements.

Interests on bank borrowings denominated in RMB at floating rates are calculated based on the borrowing rates announced by the People's Bank of China. The effective interest rate bank borrowings are charged at the prevailing market rates ranging from 4.35% to 4.79% per annum as at 31 December 2019 (2018: 3.65% to 4.79%).

As at 31 December 2019, bank borrowings of approximately RMB45,968,000 (2018: RMB38,483,000) were secured by the notes discounted to the banks. As at 31 December 2019, no bank borrowings (2018: RMB3,000,000) were secured by the pledge of bank deposits, the right to the future income stream or the pledge of the concession arrangements for borrowings used in Jinggangshan Boqi's service concession arrangements.

31. 借款(續)

到期款項乃基於借款協議所載的計劃償還日期。

以人民幣計值的浮息銀行借款利息按中國人民銀行公佈的借款利率計算。銀行借款的實際利率按於2019年12月31日介乎4.35%至4.79%的現行市場年利率收取(2018年: 3.65%至4.79%)。

於2019年12月31日, 約人民幣45,968,000元(2018年: 人民幣38,483,000元)銀行借款已由向銀行貼現的票據作抵押。於2019年12月31日, 並無銀行借款(2018年: 人民幣3,000,000元)由抵押銀行存款、獲取未來收入流的權利或抵押有關井岡山博奇服務特許經營安排使用的借款的特許經營權安排作擔保。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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32. LEASE LIABILITIES

32. 租賃負債

		2019 2019年 RMB'000 人民幣千元
Lease liabilities payable:	應付租賃負債：	
Within one year	一年內	8,892
Within a period of more than one year but not more than two years	一年以上但不超過兩年	180
		9,072
Less: Amount due for settlement with 12 months shown under current liabilities	減：流動負債所列於12個月內清償的 應付款項	8,892
		180
Amount due for settlement after 12 months shown under non-current liabilities	非流動負債所列於12個月後清償的 應付款項	180

33. CONVERTIBLE ORDINARY SHARES

On 16 March 2018, the Company was successfully listed on the Main Board of the Stock Exchange of Hong Kong Limited, upon when all of the Company's Class B and Class C convertible ordinary shares were converted into ordinary shares (note 35). The fair value of such Class B and Class C convertible shares upon conversion amounted to RMB621,588,000, which was recorded as the Company's equity upon such conversion. Fair value charge of convertible ordinary shares amounting to RMB133,541,000 is recognised in profit or loss during the year ended 31 December 2018.

33. 可轉換普通股

於2018年3月16日，本公司成功於香港聯合交易所有限公司主板上市，當時所有本公司B類及C類可轉換普通股隨即轉換為普通股（附註35）。於轉換後，該等B類及C類可轉換普通股的公允價值為人民幣621,588,000元，並於該轉換後列賬為本公司的權益。於截至2018年12月31日止年度，所產生普通股的公允價值變動人民幣133,541,000元已於損益中確認。



34. RECONCILIATION OF LIABILITIES ARISING FROM FINANCING ACTIVITIES

The table below details changes in the Group's liabilities arising from financing activities, including both cash and non-cash changes. Liabilities arising from financing activities are those for which cash flows were, or future cash flows will be, classified in the Group's consolidated statement of cash flows from financing activities.

34. 融資活動產生的負債之對賬

下表詳述本集團融資活動產生的負債的變動，包括現金及非現金變動。融資活動所產生負債為曾或將於本集團綜合現金流量表分類為融資活動所產生現金流量的現金流量或未來現金流量。

		Borrowings	Convertible ordinary shares	Lease liabilities
		借款	可轉換 普通股	租賃負債
		RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元
At 1 January 2018	於2018年1月1日	127,000	755,129	-
Financing cash flows	融資現金流量	(67,417)	-	-
Conversion	轉換	-	(621,588)	-
Fair value adjustments	公允價值調整	-	(133,541)	-
Interest expenses	利息開支	5,900	-	-
At 31 December 2018	於2018年12月31日	65,483	-	-
Adjustment upon application of IFRS 16 (note 2)	於應用國際財務報告準則 第16號時調整(附註2)	-	-	18,031
At 1 January 2019 (restated)	於2019年1月1日(重列)	65,483	-	18,031
Financing cash flows	融資現金流量	38,854	-	(10,005)
Interest expenses	利息開支	3,131	-	1,046
At 31 December 2019	於2019年12月31日	107,468	-	9,072



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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35. SHARE CAPITAL

Details of the movement of share capital are as follows:

Authorised

		Number of shares	Nominal value per share	Share capital
		股份數目	每股面值	股本
			US\$	US\$
			美元	美元
At 1 January 2018, 31 December 2018 and 31 December 2019	於2018年1月1日、 2018年12月31日 及2019年12月31日	5,000,000,000	0.00001	50,000

35. 股本

股本的變動詳情如下：

法定



35. SHARE CAPITAL (Continued)

Issued

35. 股本(續)

已發行

		Ordinary shares 普通股	Class A ordinary shares A類普通股	Class B convertible ordinary shares B類可轉換 普通股	Class C convertible ordinary shares C類可轉換 普通股	Total 總計	Share capital 股本 US\$ 美元
At 1 January 2018	於2018年1月1日	-	475,277,437	125,000,000	194,376,362	794,653,799	4,753
Conversion of Class A ordinary shares to ordinary shares (note (i))	A類普通股轉換為普通股(附註(i))	475,277,437	(475,277,437)	-	-	-	-
Conversion of Class B convertible ordinary Shares to ordinary shares (note (ii))	B類可轉換普通股轉換為普通股(附註(ii))	125,000,000	-	(125,000,000)	-	-	1,250
Conversion of Class C-1 convertible ordinary Shares to ordinary shares (note (ii))	C-1類可轉換普通股轉換為普通股(附註(ii))	27,573,529	-	-	(27,573,529)	-	276
Conversion of Class C-2 convertible ordinary Shares to ordinary shares (note (ii))	C-2類可轉換普通股轉換為普通股(附註(ii))	110,294,118	-	-	(110,294,118)	-	1,103
Conversion of Class C-3 convertible ordinary Shares to ordinary shares (note (ii))	C-3類可轉換普通股轉換為普通股(附註(ii))	56,508,715	-	-	(56,508,715)	-	565
Issue of new shares upon listing (note (iii))	於上市後發行新股(附註(iii))	216,105,000	-	-	-	216,105,000	2,161
At 31 December 2018	於2018年12月31日	1,010,758,799	-	-	-	1,010,758,799	10,108
Share repurchased and cancelled (note (iv))	購回股份並註銷	(3,652,000)	-	-	-	(3,652,000)	(37)
At 31 December 2019	於2019年12月31日	1,007,106,799	-	-	-	1,007,106,799	10,071



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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35. SHARE CAPITAL (Continued)

Issued (Continued)

Presented as

呈列為

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Notes:

- (i) Upon completion of the IPO, all of the Company's Class A ordinary shares were converted into ordinary shares on a one-to-one basis immediately.
- (ii) Upon completion of the Initial Public Offering ("IPO"), all of the Company's outstanding 125,000,000 Class B convertible ordinary shares and 194,376,362 Class C convertible ordinary shares were converted into ordinary shares on a one-to-one basis immediately. As a result, the financial liabilities for the convertible redeemable preferred shares were derecognised and recorded as share capital and share premium reserve of the Company, respectively.
- (iii) Upon completion of the IPO, the Company issued 216,105,000 new shares by way of global offering of US\$0.00001 each at a price of HK\$2.40 (equivalent to RMB1.94) each, and raised gross proceeds of approximately HK\$518,652,000 (equivalent to RMB418,860,000). The respective share capital amount was approximately RMB14,000 and share premium arising from the issuance was approximately RMB390,983,000, net of the share issuance costs. The share issuance costs mainly included share underwriting commissions, lawyers' fees, reporting accountant's fee and other related costs, which are incremental costs directly attributable to the issuance of the new shares. These costs amounting to RMB27,863,000 were treated as a deduction against the share premium arising from the issuance.

35. 股本（續）

已發行（續）

2019
2019年
RMB'000
人民幣千元

2018
2018年
RMB'000
人民幣千元

附註：

- (i) 於首次公開發售完成後，所有本公司的A類普通股按一比一基準即時轉換至普通股。
- (ii) 於首次公開發售完成後，所有本公司尚未轉換的125,000,000股B類可轉換普通股及194,376,362股C類可轉換普通股按一比一基準即時轉換至普通股。故此，可轉換可贖回優先股的相關財務負債終止確認並分別列賬為本公司的股本及股份溢價儲備。
- (iii) 於首次公開發售完成後，本公司透過全球發售以每股面值0.00001美元按每股2.40港元（相當於人民幣1.94元）發行了216,105,000股新股份，總所得款項約為518,652,000港元（相當於人民幣418,860,000元）。相應的股本金額約為人民幣14,000元，由發行所產生的股份溢價約為人民幣390,983,000元（扣除股份發行成本）。股份發行成本主要包括股份包銷佣金、律師費、申報會計師費用及其他相關成本，此等為由發行新股份直接產生的增支成本。此等金額為人民幣27,863,000元的成本被視為由發行所產生的股份溢價的扣減。



35. SHARE CAPITAL (Continued)

Issued (Continued)

Notes: (Continued)

- (iv) During the year, the Company repurchased its own ordinary shares through The Stock Exchange of Hong Kong Limited as follows:

Month of Repurchase	Number of ordinary shares of HK\$1.44 each	Price per share		Aggregate consideration paid
		Highest	Lowest	
購回月份	每股面值 1.44港元的 普通股數目	每股價格 最高 HK\$ 港元	最低 HK\$ 港元	已付代價總額 HK\$'000 千港元
January 2019	764,000	1.80	1.72	1,360
February 2019	341,000	1.75	1.60	579
July 2019	692,000	1.28	1.10	807
August 2019	100,000	1.20	1.10	116
September 2019	500,000	1.20	1.17	598

Within the above ordinary shares, 1,255,000 ordinary shares were repurchased in 2018 (and treated as treasury shares) and cancelled in 2019, and 2,397,000 were cancelled upon repurchased in 2019.

None of the Company's subsidiaries purchased, sold or redeemed any of the Company's listed securities during the year.

35. 股本(續)

已發行(續)

附註:(續)

- (iv) 於年內，本公司透過香港聯合交易所有限公司購回其普通股，詳情如下：

在上述普通股中，1,255,000股普通股已於2018年購回(及當作庫存股份)並於2019年註銷，而2,397,000股普通股已於2019年購回後註銷。

年內，本公司附屬公司概無購買、出售或贖回本公司任何上市證券。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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36. CAPITAL RISK MANAGEMENT

The Group manages its capital to ensure that entities in the Group will be able to continue as a going concern while maximising the return to shareholders through the optimisation of the debt and equity balance. The Group's overall strategy remains unchanged during the current year.

The capital structure of the Group consists of borrowings, pledged bank deposits, bank balances and cash and equity attributable to owners of the Company, comprising share capital and reserves.

The Directors review the capital structure on an annual basis. As part of this review, the Directors consider the cost of capital and the risks associated with each class of capital. Based on the results of the review of the Directors, the Group will balance its overall capital structure through the payment of dividends, raising new share capital as well as the issue of new debt.

36. 資本風險管理

本集團對其資本進行管理，以確保本集團各實體可繼續按持續經營基準經營，同時透過優化債務及股本平衡，為股東創造最大回報。本集團的整體策略於本年度保持不變。

本集團之資本架構由借款、已抵押銀行存款、銀行結餘及現金以及本公司擁有人應佔股權（包括股本及儲備）組成。

董事每年檢討資本架構。作為此項檢討的一環，董事考慮資本成本及各資本類別所附帶的風險。根據董事的檢討結果，本集團將透過派付股息、籌集新股本及發行新債項平衡其整體資本架構。



37. FINANCIAL INSTRUMENTS

Categories of financial instruments

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Financial assets	金融資產		
Financial assets at amortised cost	按攤銷成本計量的金融資產	1,952,666	2,378,965
Debt instrument at FVTOCI	按公允價值計入其他全面收益的股本工具	197,933	70,205
Equity instrument at FVTPL	按公允價值計入損益的股本工具	45,693	-
Equity instrument at FVTOCI	按公允價值計入其他全面收益的債務工具	-	3,540
Financial liabilities			
Liabilities measured at amortised cost	按攤銷成本計量的負債	1,464,998	1,079,323

Financial risk management objectives and policies

The Group's major financial instruments include equity and debt investments, trade receivables, other receivables, receivable under service concession arrangement, amounts due from related parties, pledged bank deposits, bank balances and cash, trade and notes payables, other payables, amounts due to related parties and borrowings. Details of the financial instruments are disclosed in respective notes. The risks associated with these financial instruments include market risk (interest rate risk, currency risk and other price risk), credit risk and liquidity risk. The policies on how to mitigate these risks are set out below. The Directors manage and monitor these exposures to ensure appropriate measures are implemented on a timely and effective manner.

金融風險管理目標及政策

本集團的主要金融工具包括股權及債務投資、貿易應收款項、其他應收款項、服務特許經營安排下的應收款項、應收關連方款項、已抵押銀行存款、銀行結餘及現金、貿易應付款項及應付票據、其他應付款項、應付關連方款項及借款。該等金融工具的詳情於相關附註披露。與該等金融工具有關的風險包括市場風險(利率風險、貨幣風險及其他價格風險)、信貸風險及流動資金風險。有關如何降低該等風險的政策載列於下文。董事管理及監控該等風險，以確保及時有效地實施適當措施。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Market risk

Interest rate risk

The Group is exposed to fair value interest rate risk in relation to fixed-rate bank borrowings and lease liabilities. The Group is also exposed to cash flow interest rate risk in relation to variable-rate bank borrowings, pledged bank deposits and bank balances. It is the Group's policy to keep its bank borrowings, pledged bank deposits and bank balances at floating rate of interests so as to minimise the fair value interest rate risk. The Group's cash flow interest rate risk is mainly concentrated on the fluctuation of the Benchmark Lending Rate of the People's Bank of China.

The Group currently does not have an interest rate hedging policy. However, the Directors monitors interest rate exposure and will consider hedging significant interest rate exposure should the need arise.

The sensitivity analysis below has been determined based on the exposure to interest rates for bank balances and cash, pledged bank deposits and variable rate bank borrowings at the end of each reporting period and assumed that the amount of liabilities outstanding at the end of each reporting period was outstanding for the whole year. A 50 basis point increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

37. 金融工具（續）

金融風險管理目標及政策（續）

市場風險

利率風險

本集團就定息銀行借款及租賃負債面臨公允價值利率風險。本集團亦就浮息銀行借款、已抵押銀行存款及銀行結餘面臨現金流量利率風險。本集團的政策為將其銀行借款、已抵押銀行存款及銀行結餘維持在浮息利率，以盡量降低公允價值利率風險。本集團的現金流量利率風險主要集中於中國人民銀行基準貸款利率波動。

本集團目前並無利率對沖政策。然而，董事監控利率風險及在需要時將考慮對沖重大利率風險。

下文敏感度分析乃根據各報告期末的銀行結餘及現金、已抵押銀行存款及浮息銀行借款的利率風險釐定，並假設於各報告期末尚未償還的負債於整個年度尚未償還。向主要管理人員內部匯報利率風險時，利用50個基數點的增減，代表管理層對利率的合理可能變動作出的評估。



37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Market risk (Continued)

Interest rate risk (Continued)

If interest rates had been 50 basis points higher/lower and all other variables were held constant, the Group's post-tax profit for the year ended 31 December 2019 would have increased/decreased by RMB1,819,000 (2018: RMB3,123,000), respectively. This is mainly attributable to the Group's exposure to interest rates on its bank balances and pledged bank deposits and partially offset by the impact from bank borrowings.

Currency risk

The Group has bank balances which are denominated in foreign currencies, mainly US\$ and HK\$, as at 31 December 2019 and 2018.

The sensitivity analysis below has been determined based on the exposure to foreign currency rates and includes only outstanding foreign currency denominated monetary items and adjusts their translation at the period end for a 5% change in foreign currency rates. A 5% increase or decrease is used when reporting foreign currency rate risk internally to key management personnel and represents the Directors' assessment of the reasonably possible change in foreign currency rates.

Foreign currency sensitivity analysis

If RMB had been appreciated/depreciated 5% against the foreign currency and all other variables were held constant, the Group's post-tax profit for the year ended 31 December 2019 would have decreased/increased by RMB3,664,000 (2018: RMB14,902,000). This is mainly attributable to the Group's exposure to the foreign currency bank balance as at 31 December 2019 and 2018.

37. 金融工具(續)

金融風險管理目標及政策(續)

市場風險(續)

利率風險(續)

倘利率增／減50個基數點且所有其他可變因素維持不變，本集團截至2019年12月31日止年度的除稅後溢利將分別增加／減少人民幣1,819,000元(2018年：人民幣3,123,000元)。此乃主要由於本集團的銀行結餘及已抵押銀行存款面對利率風險，且部分被銀行借款的影響所抵銷。

貨幣風險

於2019年及2018年12月31日，本集團擁有以外幣(主要為美元及港元)計值的銀行結餘。

以下敏感度分析乃根據面臨的外匯匯率而釐定，且僅包括以外幣計值之尚未償還貨幣項目並就外幣匯率變動5%調整期末換算。向主要管理人員內部匯報外匯匯率風險時，利用5%的增減，代表董事對外匯匯率的合理可能變動作出的評估。

外幣敏感度分析

倘人民幣兌外幣升值／貶值5%且所有其他可變因素維持不變，本集團截至2019年12月31日止年度的除稅後溢利將減少／增加人民幣3,664,000元(2018年：人民幣14,902,000元)。此乃主要由於本集團面臨於2019年及2018年12月31日外幣銀行結餘的匯率風險。



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37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Market risk (Continued)

Other price risk

The Group is exposed to equity price risk through its investments in equity securities measured at FVTPL. For equity securities measured at FVTPL quoted in The Stock Exchange of Hong Kong Limited, the Directors manage this exposure by maintaining a portfolio of investments with different risks. The sensitivity analysis has been determined based on the exposure to equity price risk at the reporting date. If the equity price had been 20% higher/lower, the post-tax profit for the year ended 31 December 2019 would increase/decrease by RMB9,139,000 as a result of the changes in fair value of equity instrument at FVTPL.

Credit risk and impairment assessment

Credit risk refers to the risk that the Group's counterparties default on their contractual obligations resulting in financial losses to the Group. The Group's credit risk exposures are primarily attributable to trade receivables, contract assets, pledged bank deposits, bank balances, amounts due from related parties, other receivables, receivables under service concession arrangement and debt instruments at fair value through other comprehensive income. The Group does not hold any collateral or other credit enhancements to cover its credit risks associated with its financial assets.

37. 金融工具（續）

金融風險管理目標及政策（續）

市場風險（續）

其他價格風險

本集團因投資於按公允價值計入損益計量的股本證券而面臨股本價格風險。就在香港聯合交易所有限公司報價的按公允價值計入損益計量的股本證券而言，董事透過維持不同風險狀況的投資組合來管理此風險。敏感度分析乃根據於報告日期所面臨的股本價格風險釐定。倘股本價格上升／下跌20%，則按公允價值計入損益的股本工具之公允價值變動會導致截至2019年12月31日止年度的除稅後溢利增加／減少人民幣9,139,000元。

信貸風險及減值評估

信貸風險指本集團的對手方就其合約責任違約而導致本集團財務損失的風險。本集團面臨的信貸風險主要來自貿易應收款項、合約資產、已抵押銀行存款、銀行結餘、應收關連方款項、其他應收款項、服務特許權安排下的應收款項以及按公允價值計入其他全面收益的債務工具而產生。本集團並無持有任何抵押品或其他信貸增益以抵銷其與金融資產相關的信貸風險。



37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

The Group performed impairment assessment for financial assets and other items under ECL model. Before accepting any new customer, the Group uses an internal credit scoring system to assess the potential customer's credit quality and defines credit limits by customer. Limits and scoring attributed to customers are reviewed twice a year. Other monitoring procedures are in place to ensure that follow-up action is taken to recover overdue debts. The Group only accepts bills issued or guaranteed by reputable PRC banks if trade receivables are settled by bills and therefore the management of the Group considers the credit risk arising from the endorsed or discounted bills is insignificant. In this regard, the directors of the Company consider that the Group's credit risk is significantly reduced. The Group is concentrated on one single counterparty for the receivables under concession arrangement. The Group has concentration of credit risk as 48% (2018: 58%) of the total trade receivables was due from the Group's five largest customers. In order to minimise the credit risk, the management of the Group has delegated a team responsible for determination of credit limits and credit approvals. The Group performs impairment assessment under ECL model on these balances and the applicable loss rates are disclosed as below. The credit risk of contract assets is assessed based on the provision matrix within lifetime ECL. The Group applies average loss rates of 1.2% (2018: 2.62%) on the contract assets. For other receivables and deposits, the directors of the Company make periodic individual assessment on the recoverability of other receivables and deposits based on historical settlement records, past experience, and also quantitative and qualitative information that is reasonable and supportive forward-looking information. Movements of ECL for the respective items were disclosed in the respective notes to the consolidated financial statements.

37. 金融工具(續)

金融風險管理目標及政策(續)

信貸風險及減值評估(續)

本集團根據預期信貸虧損模式對金融資產及其他項目進行減值評估。於接納任何新客戶前，本集團利用內部信貸評分系統評估潛在客戶之信貸質素及就個別客戶制定信貸限額。本集團會每年兩次審閱給予客戶之限額及評分。本集團亦設有其他監察程序，確保採取跟進行動收回逾期債項。倘貿易應收款項以票據結算，本集團僅接納由信譽良好的中國國內銀行發行或擔保的票據，因此本集團管理層認為已背書或貼現票據所產生的信貸風險屬微不足道。在此方面，本公司董事認為本集團的信貸風險大幅減少。在特許權安排下，本集團的應收款項僅集中於單一對手方。由於本集團的貿易應收款項總額的48% (2018年：58%) 乃應收本集團的五大客戶，因此本集團有信貸集中風險。為了將信貸風險減至最低，本集團管理層已委派一個專責團隊，負責釐定信貸限額及進行信貸審批。本集團根據預期信貸虧損模式對該等結餘進行減值評估，而適用的虧損率在下文披露。合約資產的信貸風險乃根據全期預期信貸虧損內的撥備矩陣作評估。本集團對合約資產應用平均虧損率1.2% (2018年：2.62%)。至於其他應收款項及存款，本公司董事根據歷史結算記錄、過往經驗以及合理的定量及定性資料和具支持性的前瞻性資料，定期對其他應收款項及存款的可收回性作評估。有關項目的預期信貸虧損變動在綜合財務報表內的相關附註內披露。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

Credit risk on pledged bank deposits and bank balances is limited because the counterparties are reputable banks with high credit ratings assigned by local or international credit agencies. The Group assessed 12m ECL for pledged bank deposits and bank balances by reference to information relating to probability of default and loss given default of the respective credit rating grades published by external credit rating agencies. Based on the average loss rates, the 12m ECL on pledged bank deposits and bank balances is considered to be insignificant.

The Group's credit risk grading framework comprises the following categories:

Internal credit rating 內部信貸評級	Description 描述	Basis for recognising expected credit losses 確認預期信貸虧損的基礎
Low risk 低風險	The counterparty has a low risk of default 對手方的逾期風險為低	12-months ECL 12個月預期信貸虧損
Doubtful 不確定	There has been a significant increase in credit risk since initial recognition 自初始確認以來信貸風險顯著上升	Lifetime ECL-not credit-impaired 全期預期信貸虧損－無信貸減值
In default 逾期	There is evidence indicating that the asset is credit-impaired 有證據顯示該資產出現信貸減值	Lifetime ECL-credit-impaired 全期預期信貸虧損－出現信貸減值
Write-off 撇銷	There is evidence indicating that the debtor is in severe financial difficulty and the Group has no realistic prospect of recovery 有證據顯示債務人處於嚴重財務困難，且本集團對收回款額已撇銷欠款並無實際期望	Amount is written off

37. 金融工具（續）

金融風險管理目標及政策（續）

信貸風險及減值評估（續）

由於已抵押銀行存款及銀行結餘的對手方為獲地方或國際信貸機構給予高度信貸評級的銀行，因此該等存款及結餘的信貸風險有限。本集團參考有關違約可能性及虧損導致違反外部信貸評級機構公佈的有關信貸評級等級的資料，對已抵押銀行存款及銀行結餘進行12個月預期信貸虧損評估。根據平均虧損率，有關已抵押銀行存款及銀行結餘的12個月預期信貸虧損被認為不重大。

本集團的信貸風險評級框架包括以下類別：



37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies
(Continued)

Credit risk and impairment assessment (Continued)

The tables below detail the credit risk exposures of the Group's financial assets and contract assets, which are subject to ECL assessment:

37. 金融工具(續)

金融風險管理目標及政策(續)

信貸風險及減值評估(續)

下表詳列本集團金融資產及合約資產根據預期信貸虧損評估所面臨的信貸風險：

	Notes 附註	External credit rating 外部 信貸評級	Internal credit rating 內部 信貸評級	12-month or lifetime ECL 12個月 或全期	Gross carrying amount 總賬面值	
					2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Debt instrument at FVTOCI 按公允價值計入其他全面收益 的債務工具	20	N/A 不適用	Low risk 低風險	12-month 12個月	197,933	70,205
Trade receivables – contracts with customers 貿易應收款項 – 客戶合約	24	N/A 不適用	Note 附註	Lifetime 全期	610,876	802,046
Contract assets 合約資產	23	N/A 不適用	Note 附註	Lifetime 全期	350,709	211,400
Amounts due from related parties 應收關連方款項	39	N/A 不適用	Note 附註	Lifetime 全期	374,595	329,890
Receivables under service concession arrangement 特許經營安排下的應收款項	17	AA- AA-	N/A 不適用	12-month 12個月	380,347	383,073
Other receivables 其他應收款項	26	N/A 不適用	Low risk 低風險	12-month 12個月	40,946	27,424

Note: For trade receivables and contract assets, the Group has applied the simplified approach in IFRS 9 to measure the loss allowance at lifetime ECL. Except for debtors with credit-impaired, the Group determines the expected credit losses on these items by using a provision matrix, grouped by past due status.

附註：就貿易應收款項及合約資產而言，本集團應用國際財務報告準則第9號的簡化方法計量全期預期信貸虧損的虧損撥備，惟對於出現信貸減值的債務人欠款，本集團採用撥備矩陣（按逾期狀態分組）釐定該等項目的預期信貸虧損。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

The trade receivables and contract assets are grouped based on similar loss patterns and loss rate is applied using the historical observed default rates of the trade balance taking into consideration of forward-looking information that is reasonably and supportably available to the directors of the Company without undue cost or effort, and are updated at each reporting date if considered to be acquired. The forward-looking information is used by the management of the Group to assess both the current as well as the forecast direction of conditions at the reporting date. The applicable estimated loss rates for the trade receivables and contract assets are set out below:

37. 金融工具（續）

金融風險管理目標及政策（續）

信貸風險及減值評估（續）

其他貿易應收款項及合約資產乃根據類似虧損模式進行分組，並使用貿易結餘的過往可觀察違約率（已考慮到本公司董事無需付出不必要成本和努力而可得的合理和具支持性且如認為需要可於各報告日期作更新的前瞻性資料）對其應用虧損率。該前瞻性資料由本集團管理層用作評估報告日期當時的狀況及所預期的狀況。貿易應收款項及合約資產組別所適用的虧損率披露如下：



37. FINANCIAL INSTRUMENTS (Continued)

37. 金融工具(續)

Financial risk management objectives and policies
(Continued)

金融風險管理目標及政策(續)

Credit risk and impairment assessment (Continued)

信貸風險及減值評估(續)

		2019 2019年			2018 2018年		
		Average loss rate	Gross carrying amount	Impairment loss allowance 減值	Average loss rate	Gross carrying amount	Impairment loss allowance 減值
Trade receivables 貿易應收款項		平均虧損率 %	總賬面值 RMB'000 人民幣千元	虧損撥備 RMB'000 人民幣千元	平均虧損率 %	總賬面值 RMB'000 人民幣千元	虧損撥備 RMB'000 人民幣千元
Less than 1 year	少於1年	0.91	442,265	4,013	0.92	651,881	5,979
1 – 2 years	1至2年	3.63	114,619	4,157	3.29	84,555	2,780
2 – 3 years	2至3年	12.20	27,073	3,302	11.64	22,360	2,602
More than 3 years	超過3年	27.00	26,919	7,269	23.84	43,250	10,311
			610,876	18,741		802,046	21,672

		2019 2019年			2018 2018年		
		Average loss rate	Gross carrying amount	Impairment loss allowance 減值	Average loss rate	Gross carrying amount	Impairment loss allowance 減值
Amounts due from related parties 應收關連方款項		平均虧損率 %	總賬面值 RMB'000 人民幣千元	虧損撥備 RMB'000 人民幣千元	平均虧損率 %	總賬面值 RMB'000 人民幣千元	虧損撥備 RMB'000 人民幣千元
Less than 1 year	少於1年	1.02	197,606	2,014	0.92	149,295	1,377
1 – 2 years	1至2年	4.04	12,373	500	2.05	180,595	3,706
2 – 3 years	2至3年	6.07	164,616	9,996	–	–	–
			374,595	12,510		329,890	5,083



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Credit risk and impairment assessment (Continued)

There has been no change in the estimation technique or significant assumptions made throughout the year ended 31 December 2019.

The Group writes off trade receivables and contract assets when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the debtor has been placed under liquidation or has entered into bankruptcy proceedings.

Liquidity risk

Ultimate responsibility for liquidity risk management rests with the Directors, who have established an appropriate liquidity risk management framework for the management of the Group's short, medium and long-term funding and liquidity management requirements. The Group manages liquidity risk by maintaining adequate reserves, banking facilities and reserve borrowing facilities, by continuously monitoring forecast and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

The following table details the Group's remaining contractual maturity for its non-derivative financial liabilities. The table has been drawn up based on the undiscounted cash flows of financial liabilities based on the earliest date on which the Group can be required to pay. The tables include both interest and principal cash flows. To the extent that interest flows are floating rate, the undiscounted amount is derived from interest rate curves at the end of the reporting period. The contractual maturity is based on the earliest date on which the Group may be required to pay.

37. 金融工具（續）

金融風險管理目標及政策（續）

信貸風險及減值評估（續）

於截至2019年12月31日止年度內，估計技術或重要假設概無變更。

倘有資料顯示債務人處於嚴重財務困難及無實際期望可收回欠款，本集團則撇銷該貿易應收款項及合約資產（例如於債務人被清盤或進入破產程序時）。

流動資金風險

流動資金風險管理乃由本公司董事最終負責，而董事已建立適當的流動資金風險管理架構，以符合本集團短期、中期及長期資金及流動資金管理規定。本集團透過維持充足的儲備、銀行融資及儲備借款額度、透過持續監控預測及實際現金流量以及透過對金融資產及負債之到期情況進行配對而管理流動資金風險。

下表詳列本集團非衍生金融負債的剩餘合約期。下表乃根據金融負債的未貼現現金流量基於本集團可能須付款的最早日期編製。表格包括利息及本金現金流量。倘利息流為浮動利率，未貼現金額源自報告期末的利率曲線。合約到期日乃根據本集團須支付最早日期釐定。

Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註(續)

For the year ended 31 December 2019
截至2019年12月31日止年度



37. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies
(Continued)

Liquidity risk (Continued)

37. 金融工具(續)

金融風險管理目標及政策(續)

流動資金風險(續)

		Weighted average effective interest rate 加權平均 實際利率 %	On demand or within 3 months 於3個月內 RMB'000 人民幣千元	3 months to 1 year 3個月至1年 RMB'000 人民幣千元	1-5 years 1至5年 RMB'000 人民幣千元	Total undiscounted cash flow 未貼現現金 流量總額 RMB'000 人民幣千元	Carrying value 賬面值 RMB'000 人民幣千元
At 31 December 2019	於2019年12月31日						
Trade and notes payables	貿易應付款項及應付票據	-	971,820	-	-	971,820	971,820
Other payables	其他應付款項	-	315,523	-	-	315,523	315,523
Amounts due to related parties	應付關連方款項	-	11,209	-	-	11,209	11,209
Borrowings	借款	4.61%	26,895	132,703	-	159,598	157,378
Lease liabilities	租賃負債	7.97%	2,501	6,701	181	9,383	9,072
			1,334,519	132,703	-	1,467,222	1,465,002
At 31 December 2018	於2018年12月31日						
Trade and notes payables	貿易應付款項及應付票據	-	885,535	-	-	885,535	885,535
Other payables	其他應付款項	-	104,404	-	-	104,404	104,404
Amounts due to related parties	應付關連方款項	-	23,901	-	-	23,901	23,901
Borrowings	借款	2.91	298	55,005	12,441	67,744	65,483
			1,014,138	55,005	12,441	1,081,584	1,079,323



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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37. FINANCIAL INSTRUMENTS (Continued)

Fair value measurement

Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis

In estimating the fair value, the Group uses market-observable data to the extent it is available. Where Level 1 inputs are not available, the Group engages third party qualified valuers to perform the valuation or perform the valuation of debt instrument at FVTOCI by itself. The Directors work closely with the qualified external valuers to establish the appropriate valuation techniques and inputs to the model. The Chief Financial Officer reports to the board of directors of the Company to explain the cause of fluctuations in the fair value.

This note provides information about how the Group determines fair values of the following financial assets.

	Fair value		Fair value hierarchy	Valuation technique and key input
	2019	2018		
	2019年	2018年		
	RMB'000	RMB'000	公允價值等級	估值技術及主要輸入數據
	人民幣千元	人民幣千元		
Equity instrument at FVTPL 按公允價值計入損益的債務工具	45,693	–	Level 1 第一級	Quoted bid prices in an active market 在活躍市場所報的買入價
Equity investment in the PRC (note 19) 在中國的股權投資 (附註19)	–	3,540	Level 3 第三級	Discounted cash flow based on the future cash flow of the company's operations 基於本公司經營所得未來現金流量的已貼現現金流量
Debt instrument at FVTOCI (note 20) 按公允價值計入其他全面收益的債務工具 (附註20)	197,933	70,205	Level 3 第三級	Discounted cash flow based on the future cash flow of the debt instrument and discount rates (note (i)) 基於債務工具的未來現金流量及貼現率的已貼現現金流量 (附註(i))

There were no transfers between Level 1 and 2 during the year ended 31 December 2019 (2018: nil).

37. 金融工具（續）

公允價值計量

按經常性基準以公允價值計量之本集團金融資產與金融負債之公允價值。

在估計公允價值時，本集團在許可情況下使用市場可觀察數據。倘第級輸入數據未可得，本集團委聘第三方合資格估值師對按公允價值計入其他全面收益的債務工具進行估值或自行估值。董事與合資格外間估值師緊密合作，確定合適的估值技巧及對模型的輸入數據。首席財務官向本公司董事會匯報，以解釋公允價值波動的原因。

本附註提供本集團釐定下列金融資產公允價值方法的資料。

截至2019年12月31日止年度，第一級與第二級之間並無轉移（2018年：無）。



37. FINANCIAL INSTRUMENTS (Continued)

Fair value measurement (Continued)

Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis (Continued)

Note:

- (i) A slight increase in the discount rate used in isolation would result in a decrease in the fair value. A 1% increase in the discount rate, holding all other variables constant, would decrease the carrying amount of the debt instrument as FVTOCI by RMB321,000 as at 31 December 2019 (2018: RMB114,000). A 1% decrease in the discount rate, holding all other variables constant, would increase the carrying amount of the debt instrument as FVTOCI by RMB324,000 as at 31 December 2019 (2018: RMB115,000).

Reconciliation of Level 3 fair value measurements

At 1 January 2018	於2018年1月1日	9,000	65,837
Total losses:	虧損總額：		
– in other comprehensive income	– 計入其他全面收益	(5,460)	–
Additions	增加	–	480,802
Settlements	結算	–	(476,434)
At 31 December 2018	於2018年12月31日	3,540	70,205
Total losses:	虧損總額：		
– in other comprehensive income	– 計入其他全面收益	(2,374)	–
Additions	增加	–	823,638
Disposals/settlements	出售／結算	(1,166)	(695,910)
At 31 December 2019	於2019年12月31日	–	197,933

37. 金融工具(續)

公允價值計量(續)

按經常性基準以公允價值計量之本集團金融資產與金融負債之公允價值。(續)

附註：

- (i) 獨立使用的貼現率輕微增加將導致公允價值下跌。於2018年12月31日，倘貼現率增加1%（所有其他可變因素維持不變），按公允價值計入其他全面收益的債務工具的賬面值將減少人民幣321,000元（2018年：人民幣114,000元）。於2018年12月31日，倘貼現率減少1%（所有其他可變因素維持不變），按公允價值計入其他全面收益的債務工具的賬面值將增加人民幣324,000元（2018年：人民幣115,000元）。

第三級公允價值計量的對賬

Equity instrument at FVTOCI 按公允價值計入其他全面收益的股本工具 RMB'000 人民幣千元	Debt instrument at FVTOCI 按公允價值計入其他全面收益的債務工具 RMB'000 人民幣千元
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Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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37. FINANCIAL INSTRUMENTS (Continued)

Fair value measurement (Continued)

Reconciliation of Level 3 fair value measurements (Continued)

Included in other comprehensive income is an amount of RMB1,239,000 loss (2018: RMB964,000 gain) relating to listed equity securities designated as equity instruments at FVTOCI and is reported as changes of 'revaluation reserve'.

Fair value of the Group's financial assets and financial liabilities that are not measured at fair value on a recurring basis

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

37. 金融工具（續）

公允價值計量（續）

第三級公允價值計量的對賬（續）

計入其他全面收益為有關指定為按公允價值計入其他全面收益的股本工具的金額為人民幣1,239,000元的虧損（2018年：人民幣964,000元收益），乃列作「重估儲備」變動。

非按經常性基準以公允價值計量之本集團金融資產與金融負債之公允價值

董事認為於綜合財務報表中按攤銷成本計量的金融資產及金融負債的賬面值與其公允價值相若。



38. OPERATING LEASES

The Group as lessor

Leasing arrangements

The Group leases out real estate under operating leases with rentals payable monthly. The leases typically run for an initial period of two years, with unilateral rights to extend the lease beyond initial period held by lessees only. Majority of the lease contracts contain market review clauses in the event the lessee exercises the option to extend.

The lease contracts do not contain residual value guarantee and/or lessee's option to purchase the property at the end of lease term.

Rental income earned by the Group from its investment properties and direct operating expenses arising on the investment properties are set out in note 10.

38. 經營租賃

本集團作為出租人

租賃安排

本集團根據經營租賃出租房地產，而租金應每月支付。租約一般初步為期兩年，屆滿後可由承租人單方面延長租約。大部分租約包含一旦承租人行使延長租約權時的市場檢討條款。

租約並不包含剩餘價值保證及／或承租人於租期屆滿時可購買物業的選擇權。

本集團從投資物業賺取的租金收入及因投資物業產生的直接經營開支載於附註10。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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38. OPERATING LEASES (Continued)

The Group as lessor (Continued)

Leasing arrangements (Continued)

Minimum lease payments receivable on leases are as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Within one year	一年內	728	730
In the second year	第二年內	-	403
		728	1,133

The Group as lessee

Non-cancellable operating lease payables

The Group had commitments for future minimum lease payments under non-cancellable operating leases which fall due as follows:

		2018 2018年 RMB'000 人民幣千元
Within one year	一年內	10,305
In the second to fifth year, inclusive	第二至五年（包括首尾兩年）	10,125
		20,430

38. 經營租賃（續）

本集團作為出租人（續）

租賃安排（續）

就租賃應收的最低租賃付款如下：

本集團作為承租人

不可撤銷經營租賃應付款項

本集團根據不可撤銷經營租賃的未來最低租賃款項承擔到期情況如下：



39. RELATED PARTY TRANSACTIONS AND BALANCES 39. 關連方交易及結餘

(a) Relationship	(a) 關係
Name of the companies 公司名稱	Relationship with the Group 與本集團的關係
Yangxi Haibin Electric Power Development Co., Ltd (“ Yangxi Electric ”) 陽西海濱電力發展有限公司(「陽西電力」)	Note (i) 附註(i)
Yangmei Group Shouyang Boqi Electric Co., Ltd. (“ Shouyang Power ”) 陽煤集團壽陽博奇發電有限責任公司(「壽陽發電」)	Note (i) 附註(i)
Chongqing Chuanwei Petrochemical Engineering Company Limited (“ Chongqing Chuanwei ”) 中國石化重慶川維化工有限公司(「重慶川維」)	Note (i) 附註(i)
Sinopec Shanghai Petrochemical Company Limited (“ Sinopec Shanghai ”) 中國石化上海石油化工股份有限公司(「中石化上海」)	Note (i) 附註(i)
Sinopec Ningbo Engineering Co., Ltd (“ Sinopec Ningbo ”) 中國石化寧波工程有限公司(「中石化寧波」)	Note (i) 附註(i)
Sinopec Shanghai Gaoqiao Petrochemical Co., Ltd. (“ Sinopec Shanghai Gaoqiao ”) 中國石化上海高橋石油化工有限公司(「中石化上海高橋」)	Note (i) 附註(i)
Sinopec Fifth Construction Co., Ltd. (“ Sinopec Fifth ”) 中國石化第五建設有限公司(「中石化第五建設」)	Note (i) 附註(i)
Sinopec Fushun Petrochemical Research Institute of Petroleum and Petrochemicals (“ Fushun Research Institute ”) 中國石油化工有限公司撫順石油化工研究院(「撫順研究院」)	Note (i) 附註(i)
Richinfo Technology Co., Ltd (“ Richinfo ”) 彩訊科技股份有限公司(「彩訊」)	Note (ii) 附註(ii)
Han Chuan Long Yuan 漢川龍源	Note (iii) 附註(iii)

Notes:

附註：

- (i) A company controlled by the shareholder of the Company who has the power to exercise significant influence over the Company.
- (ii) The Chief Executive Officer of the Company, Mr. Zeng has the power to exercise significant influence over this company
- (iii) Associate of the Group.

- (i) 由可對本公司行使重大影響力的本公司股東所控制的公司。
- (ii) 本公司行政總裁曾先生有權對該公司行使重大影響力。
- (ii) 本公司的聯營公司。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued) 39. 關連方交易及結餘（續）

(b) Amounts due from related parties

(b) 應收關連方款項

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Yangxi Electric (note (i))	陽西電力（附註(i)）	287,873	244,155
Shouyang Power	壽陽發電	25,201	26,735
Chongqing Chuanwei	重慶川維	23,586	–
Sinopec Shanghai	中石化上海	22,636	47,007
Sinopec Ningbo	中石化寧波	2,138	–
Han Chuan Long Yuan (note (ii))	漢川龍源（附註(ii)）	631	320
Sinopec Shanghai Gaoqiao	中石化上海高橋	20	6,590
		362,085	324,807
Analysed for reporting purpose as: 供呈報用途作以下分析：			
Current assets	流動資產	223,589	181,520
Non-current assets	非流動資產	138,496	143,287
		362,085	324,807
Trade balances	貿易結餘	222,958	181,200
Non-trade balances	非貿易結餘	139,127	143,607
		362,085	324,807



39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued)

(b) Amounts due from related parties (Continued)

Notes:

- (i) Included in this amount is non-trade nature receivable of RMB138,496,000 (2018: RMB143,607,000). On 28 August 2017, the Group entered into a revised management service agreement with Guangdong Huaxia Electric Development Co., Ltd, parent of Yangxi Electric, and Yangxi Electric to extend the O&M service term from 1 January 2017 to 31 December 2017 to a term from 1 January 2017 to 31 December 2025 and require a deposit of RMB139,690,000, which was paid by the Group on 31 December 2017. The deposit carries interest at long-term borrowing rates of the Group, which is unsecured and repayable at the end of the O&M service term.
- (ii) The balances are all unsecured, interest-free and repayable on demand.

The Group generally grants a credit period of 90 days to its related parties. Aging analysis of amounts due from related parties-trade nature, based on invoice date, is as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
1 – 90 days	1至90天	113,294	72,896
91 – 180 days	91至180天	55,341	66,412
181 – 365 days	181至365天	27,002	8,610
1 – 2 years	1至2年	11,874	176,889
2 – 3 years	2至3年	154,574	–
		362,085	324,807

39. 關連方交易及結餘(續)

(b) 應收關連方款項(續)

附註：

- (i) 此金額包括非貿易性質的應收款項人民幣138,496,000元(2018年：人民幣143,607,000元)。於2017年8月28日，本集團與陽西電力的母公司廣東華廈電力發展有限公司及陽西電力訂立經修訂管理服務協議，將運維服務期限由2017年1月1日至2017年12月31日延長至2017年1月1日至2025年12月31日及需支付按金人民幣139,690,000元，有關按金已由本集團於2017年12月31日支付。該按金按本集團的長期借款利率計算、無抵押，及須於運維服務期未償還。
- (ii) 該等結餘為無抵押、免息及須於要求時償還。

本集團一般向其關連方授予90天的信貸期。應收關連方款項(貿易性質)按發票日期的賬齡分析如下：



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued)

(b) Amounts due from related parties (Continued)

Maximum amount outstanding during the year are as follows:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Yangxi Electric	陽西電力	138,496	143,287
Han Chuan Long Yuan	漢川龍源	631	320
Boqi Environmental Engineering	博奇環保工程	-	18,324
		139,127	161,931

Movement in lifetime ECL that has been recognised for amounts due from related parties for the year ended 31 December 2019 is as follows:

截至2019年12月31日止年度，已確認的應收關連方款項全期預期信貸虧損變動如下：

		RMB'000 人民幣千元
At 1 January 2018	於2018年1月1日	2,839
Allowance for amounts due from related parties	應收關連方款項撥備	2,244
At 31 December 2018	於2018年12月31日	5,083
Allowance for amounts due from related parties	應收關連方款項撥備	7,427
At 31 December 2019	於2019年12月31日	12,510



39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued)

39. 關連方交易及結餘(續)

(c) Amounts due to related parties

(c) 應付關連方款項

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Sinopec Fifth	中石化第五建設	10,915	2,765
Boqi Environmental Engineering	博奇環保工程	176	176
Richinfo	彩訊	118	696
Chongqing Chuanwei	重慶川維	-	10,546
Sinopec Ningbo	中石化寧波	-	9,718
		11,209	23,901

The credit period granted by the related parties is ranging from 30 to 90 days. Aging analysis of amounts due to related parties-trade nature is as follows:

關連方授予的信貸期介乎30至90天。應付關連方款項(貿易性質)的賬齡分析如下:

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
1 – 90 days	1至90天	10,715	23,525
91 – 180 days	91至180天	30	376
181 – 365 days	181至365天	88	-
1 – 2 years	1至2年	376	-
		11,209	23,901



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued)

39. 關連方交易及結餘（續）

(d) Related party transactions

(d) 關連方交易

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Yangxi Electric (<i>note (i)</i>)	陽西電力（附註(i)）		
– O&M service	– 運維服務	166,808	255,575
– Interest income	– 利息收入	6,160	6,160
– Water and electricity, labor, spare parts and miscellaneous items charged by Yangxi Electric	– 陽西電力收取的水電、勞工、備件及雜項費用	66,128	89,724
Chongqing Chuanwei	重慶川維		
– EPC service (<i>note (ii)</i>)	– EPC服務（附註(ii)）	74,017	6,849
Sinopec Fifth (<i>note (iii)</i>)	中石化第五建設（附註(iii)）		
– Purchase of equipments	– 購買機器	13,729	2,001
– Purchase of construction service	– 購買建造服務	12,361	12,542
Sinopec Ningbo	中石化寧波		
– EPC service (<i>note (iv)</i>)	– EPC服務（附註(iv)）	20,129	1,250
Sinopec Shanghai Gaoqiao (<i>note (v)</i>)	中石化上海高橋（附註(v)）		
– EPC service	– EPC服務	47	6,321
– Purchase of equipment	– 購買設備	310	–
Richinfo	彩訊		
– Purchase of intangible assets	– 購買無形資產	21	21
Sinopec Shanghai (<i>note (vi)</i>)	中石化上海（附註(vi)）		
– EPC service	– EPC服務	–	126,729
Fushun Research Institute	撫順研究院		
– EPC consulting fee (<i>note (vii)</i>)	– EPC諮詢費用（附註(vii)）	–	900
Sinopec Dalian Petrochemical Research Institute	中國石化大連石油化工研究院		
– Consulting service	– 諮詢服務	–	94



39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued)

(d) Related party transactions (Continued)

Notes:

- (i) In December 2016, the Group entered into a management service agreement, pursuant to which the Group provided O&M service to Yangxi Electric, and RMB166,808,000 was recognised as revenue during the year ended 31 December 2019 (2018: RMB255,575,000). The Group also purchases water and electricity, labor, space parts and miscellaneous items from Yangxi Electric to support the O&M service. During the year ended 31 December 2019, the Group purchased RMB66,128,000 (2018: RMB89,724,000) water and electricity, labor, space parts and miscellaneous items from Yangxi Electric.
- (ii) In September 2018, the Group entered into an EPC service contract with Chongqing Chuanwei for a total contract amount of RMB194,870,000, of which RMB74,017,000 were recognised as revenue during the year ended 31 December 2019 (2018: RMB6,849,000).
- (iii) During the year ended 31 December 2019, the Group purchases equipment and construction service from Sinopec Fifth for certain EPC contract amount of RMB13,729,000 (2018: RMB2,001,000) and RMB12,361,000 (2018: RMB12,542,000), respectively.

39. 關連方交易及結餘(續)

(d) 關連方交易(續)

附註：

- (i) 於2016年12月，本集團訂立管理服務協議，據此，本集團將向陽西電力提供運維服務，其中截至2019年12月31日止年度確認收入為人民幣166,808,000元(2018年：255,575,000元)，本集團亦自陽西電力購買水電、勞工、備件及雜項項目，以支持運維服務。截至2019年12月31日止年度，本集團自陽西電力購買水電、勞工、備件及雜項項目人民幣66,128,000元(2018年：89,724,000元)。
- (ii) 於2018年9月，本集團與重慶川維訂立EPC服務合約，總合約金額為人民幣194,870,000元，其中截至2019年12月31日止年度確認收入人民幣74,017,000元(2018年：人民幣6,849,000元)。
- (iii) 截至2019年12月31日止年度，本集團因若干EPC合約自中石化第五建設購買機器及建造服務的金額為人民幣13,729,000元(2018年：人民幣2,001,000元)及人民幣12,361,000元(2018年：人民幣12,542,000元)。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued)

(d) Related party transactions (Continued)

Notes: (Continued)

- (iv) In August 2018, the Group entered into an EPC service contract with Sinopec Ningbo for a total contract amount of RMB24,800,000, of which RMB20,129,000 were recognised as revenue during the year ended 31 December 2019 (2018: RMB1,250,000).
- (v) In April 2017, the Group entered into EPC service contract with Sinopec Shanghai Gaoqiao for a total contract amount of RMB16,990,000, of which RMB47,000 was recognised as revenue during the year ended 31 December 2019 (2018: (vi) RMB6,321,000) and entered into another equipment purchase contract in April 2019 for a total contract amount of RMB350,000, of which RMB310,000 was recognised as revenue during the year ended 31 December 2019 (2018: nil).
- (vi) In March 2017, the Group entered into an EPC service contract with Sinopec Shanghai for a total contract of RMB224,626,000, of which no revenue was recognised as revenue during the year ended 31 December 2019 (2018: RMB126,729,000).
- (vii) In September 2017, the Group entered into a technology licensing contract with Fushun Research Institute, an entity of which the controlling shareholder has significant influence in the company, pursuant to which the Group was licensed to use certain patents and know-how of Fushun Research Institute from the contract signing date to the end of December 2018.

39. 關連方交易及結餘（續）

(d) 關連方交易（續）

附註：（續）

- (iv) 於2018年8月，本集團與中石化寧波訂立EPC服務合約，總合約金額為人民幣24,800,000元，其中截至2019年12月31日止年度確認收入人民幣20,129,000元（2018年：人民幣1,250,000元）。
- (v) 於2017年4月，本集團與中石化上海高橋訂立EPC服務合約，總合約金額為人民幣16,990,000元，其中截至2019年12月31日止年度確認收入人民幣47,000元（2018年：（vi）人民幣6,321,000元），並於2019年4月訂立另一份設備購買合約，總合約金額為人民幣350,000元，其中截至2019年12月31日止年度確認收入人民幣310,000元（2018年：無）。
- (vi) 於2017年3月，本集團與中石化上海訂立EPC服務合約，總合約金額為人民幣224,626,000元，其中截至2019年12月31日止年度並無確認收入（2018年：人民幣126,729,000元）。
- (vii) 於2017年9月，本集團與撫順研究院訂立技術特許合約，其控股股東對該公司有重大影響力，據此，本集團自合約簽署日期至2018年12月末被允許使用其若干專利和專有技術。



39. RELATED PARTY TRANSACTIONS AND BALANCES (Continued)

(e) Guarantees provided to Han Chuan Long Yuan

On 18 July 2014 and 15 January 2015, the Group and the Wuhan branch of China Everbright Bank entered into two separate financial guarantee contracts, pursuant to which Beijing Boqi will provide guarantees for the liabilities under the maximum credit limit amounting to RMB45,000,000 and RMB21,000,000, respectively, arising from securing two bank term loans to Han Chuan Long Yuan, for the loan period from 18 July 2014 to 17 July 2021 and from 15 January 2015 to 14 January 2022, respectively. Han Chuan Long Yuan has fully repaid the bank loans prior to the maturity during current the year, accordingly, the financial guarantees were released.

(f) Compensation of key management personnel

The remuneration of key management personnel which represent the Directors and key executives of the Company for the year reported are as follows:

39. 關連方交易及結餘(續)

(e) 向漢川龍源提供的擔保

於2014年7月18日及2015年1月15日，本集團與中國光大銀行武漢分行訂立兩項獨立財務擔保合約，據此，北京博奇將按最高信貸額分別為人民幣45,000,000元及人民幣21,000,000元的負債提供擔保，負債乃由於獲取兩項銀行定期貸款予漢川龍源所致，貸款期限分別為2014年7月18日至2021年7月17日期間及2015年1月15日至2022年1月14日期間。漢川龍源於本年度已於到期前悉數償還銀行貸款，因此該財務擔保經已獲解除。

(f) 主要管理人員薪酬

主要管理人員(指本公司董事及主要行政人員)於報告年度的薪酬如下：

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Salaries and other benefits	薪金及其他福利	3,260	3,260
Contributions to retirement benefits scheme	退休福利計劃供款	153	174
Equity-settled share-based expense	股權結算以股份為基礎開支	403	1,025
		3,816	4,459

The remuneration of the Directors and key executives is determined by the remuneration committee having regard to the performance of individuals and market trends.

董事及主要行政人員的薪酬經薪酬委員會考慮個人表現及市場趨勢後釐定。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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40. RETIREMENT BENEFITS PLANS

The employees of the Group in the PRC are members of a state-managed retirement benefits scheme operated by the PRC government. The Group is required to contribute a specified percentage of payroll costs as determined by respective local government authority to the retirement benefits scheme to fund the benefits. The only obligation of the Group with respect to the retirement benefits scheme is to make the specified contributions under the scheme.

The amounts of contributions made by the Group in respect of the retirement benefits scheme during the year reported are disclosed in notes 10 and 13.

41. SHARE-BASED PAYMENT

The Company adopted the Pre-IPO Share Award Scheme (“**Scheme**”) pursuant to a resolution passed by the Directors on 15 April 2016, through which a total of 25,000,000 shares (“**Awarded Shares**”) at a par value of US\$0.00001 each were issued to Acheson (the “**Trust**”) on 11 May 2016, who will hold the Awarded Shares for the benefit of the eligible employees (“**Selected Employees**”) and facilitate the purchase, holding and/or vesting of such Awarded Shares as a trustee pursuant to the trust deed (“**Trust Deed**”) signed by the Company. The Trust was established pursuant to the Trust Deed dated 2 September 2016 with retrospective effect from 10 May 2016.

A management committee has been established and authorised by the Directors to make all determination and provide directions to the Trustee in relation to the Scheme (the “**Committee**”). The Pre-IPO Share Award Scheme is valid and effective for a period of ten years from the date of adoption.

40. 退休福利計劃

本集團於中國的僱員為中國政府實施的國家指導退休福利計劃的成員。本集團須向退休福利計劃作出由各地方政府機構釐定的工資成本特定百分比的供款，以為福利提供資金。本集團有關退休福利計劃的責任僅為根據計劃作出特定供款。

於報告年度，本集團就退休福利計劃作出的供款金額於附註10及13披露。

41. 以股份為基礎的付款

本公司根據董事於2016年4月15日通過的決議案採納首次公開發售前股份獎勵計劃（「**計劃**」），據此，合共25,000,000股每股面值0.00001美元的股份（「**獎勵股份**」）於2016年5月11日發行予Acheson（「**信託**」），其將以合資格僱員（「**經甄選僱員**」）的利益持有獎勵股份並根據本公司簽署的信託契據（「**信託契據**」）作為受託人促使購買、持有及／或歸屬該等獎勵股份。該信託乃根據日期為2016年9月2日並追溯至2016年5月10日起生效的信託契據成立。

管理委員會（「**委員會**」）已告成立並獲董事授權就計劃作出一切決定及向受託人提供指導。首次公開發售前股份獎勵計劃自採納日期起為期十年有效且具效力。



41. SHARE-BASED PAYMENT (Continued)

Pursuant to the Scheme, the Selected Employees are entitled to subscribe for the Awarded Shares at the price of RMB0.85 per Awarded Share by way of a loan provided by the Company. The Awarded Shares shall vest in three tranches on the following vesting dates provided that the vesting conditions applicable to such Selected Employee are satisfied:

- (i) 50% on the date of listing of the Company's share on the Main Board of the Stock Exchange of Hong Kong Limited ("Listing" and "Listing Date") (the "First Vested Shares"), provided the Selected Employees remain in service until the first trading day following the first anniversary of the Listing Date;
- (ii) 25% on the first trading date following the first anniversary of the Listing Date; and
- (iii) 25% on the first trading date following the second anniversary of the Listing Date.

Upon the date of Listing, the trustee will sell the First Vested Shares under the instruction of the Committee. The proceeds, after netting off the loan borrowed by the respective Selected Employees ("Net Proceed"), 80% of which will be paid to the Selected Employees. However, if such Selected Employee terminates its employment with the Group during the one-year period after the Listing Date, the Net Proceed received should be repaid to the Company. The remaining 20% of the Net Proceed will be paid provided that such Selected Employee continues to serve the Company for one year after the Listing Date. If the proceeds are less than the amount of the loan borrowed, the Selected Employees will still need to repay the loan to the Company.

The expected vesting period for tranche (i) and (ii) is one year after the Listing Date and the expected vesting period for tranche (iii) is two years after the Listing Date.

On 7 September 2016, the Company granted 23,170,000 Awarded Shares to the Selected Employees.

41. 以股份為基礎的付款(續)

根據計劃，經甄選僱員有權按每股獎勵股份人民幣0.85元的價格以向本公司貸款的方式認購獎勵股份。獎勵股份須於以下歸屬日期分三批歸屬，惟須達成適用於有關經甄選僱員的歸屬條件：

- (i) 50%的獎勵股份於本公司股份在香港聯合交易所有限公司主板上市當日(「上市」及「上市日期」)歸屬(「首批歸屬股份」)，前提是被授予股份的員工在上市日期第一週年後第一個交易日前不得離職；
- (ii) 25%的獎勵股份將於上市日期第一週年後第一個交易日歸屬；及
- (iii) 25%的獎勵股份將於上市日期第二週年後第一個交易日歸屬。

於上市日期，受託人將按委員會的指示出售首批歸屬股份。扣除相關經甄選僱員籌借的貸款後，所得款項(「所得款項淨額」)的80%將付予經甄選僱員。然而，倘有關經甄選僱員於上市日期後一年期間終止與本集團的僱傭關係，則已收取的所得款項淨額應退回予本公司。所得款項淨額的餘下20%將支付予經甄選僱員，惟有關經甄選僱員須於上市日期後一年期間繼續在本公司任職方可作實。倘所得款項低於已借入貸款金額，經甄選僱員仍將須向本公司償還貸款。

預計(i)及(ii)批次的歸屬期間為上市日期後一年，而(iii)批次的預計歸屬期間為上市日期後兩年。

於2016年9月7日，本公司授予23,170,000股獎勵股份予經甄選僱員。



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

For the year ended 31 December 2019
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41. SHARE-BASED PAYMENT (Continued)

The details of the Awarded Shares granted for the year ended 31 December 2016 are as follows:

Number of Awarded

Shares granted 授出獎勵股份的數目	Grant date 授出日期	Expiry date 屆滿日期	Purchase price 購買價 人民幣元
23,170,000	7 September 2016	7 September 2026	0.85
23,170,000股	2016年9月7日	2026年9月7日	0.85

In accordance with the Trust deed entered into between the Trust and the Company ("Trust Deed"), the Company has the control over the Trust. Therefore, the Trust is consolidated by the Group. Accordingly, the shares issued and held by Acheson should be treated as treasury shares and shown separate amounts in the consolidated statement of changes in equity. In addition, finance costs and administration expenses of the trust are recognised by the Company.

The Group has determined the fair value of the Awarded Shares based on binominal option-pricing model as of the grant date. The valuation model requires the input of highly subjective assumptions, including the entity risk premium and the discount rate due to lack of control, and changes in the subjective input assumptions can materially affect the fair value estimate of the Awarded Shares.

41. 以股份為基礎的付款（續）

截至2016年12月31日止年度授出的獎勵股份詳情如下：

根據信託與本公司訂立的信託契據（「信託契據」），本公司對信託具有控制權。因此，信託由本集團綜合入賬。因此，Acheson所發行及持有之股份應被視為庫存股份並於綜合權益變動表中單獨列示金額。此外，信託的融資成本及行政開支由本公司確認。

本集團已於授出日期按「二項式」期權定價模式釐定獎勵股份的公允價值。該估值模式需要作出高度主觀假設的輸入，包括股權風險溢價及缺乏控制折讓率，且主觀輸入假設的變動可對獎勵股份的公允價值的估值造成重大影響。

		7 September 2016 2016年9月7日
Weighted average grant date fair value per share	每股加權平均授出日公允價值	RMB1.94 人民幣1.94元
Weighted average exercise price	加權平均行使價	RMB0.85 人民幣0.85元
Detailed forecast period	詳細預測期	5 years 5年
Weighted average cost of capital	加權平均資本成本	16.83%
Leveraged beta	槓桿beta	1.04
Entity risk premium	股權風險溢價	0.5%
Discount rate due to lack of control	缺乏控制折讓率	10%



41. SHARE-BASED PAYMENT (Continued)

Movements in Awarded Shares during the year

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
At the beginning of the year	於年初	10,873,000	22,245,000
Exercised during the year	年內行使	-	(11,122,000)
Forfeited during the year	年內沒收	(1,185,500)	(250,000)
<hr/>			
At the end of the year	於年末	9,687,500	10,873,000

The Group recognised a total share-based payment expenses of RMB3,317,000 in profit or loss during the year ended 31 December 2019 (2018: RMB8,442,000) in relation to the Awarded Shares granted by the Company.

41. 以股份為基礎的付款(續)

獎勵股份於年內的變動

截至2019年12月31日止年度，本公司就本公司授出的獎勵股份於損益中確認以股份為基礎的薪酬開支總額為人民幣3,317,000元(2018年：人民幣8,442,000元)。

42. COMMITMENT FOR CAPITAL EXPENDITURE

Commitments for construction of infrastructure under concession operation (contracted but not provided for)	特許經營項下建造基礎設施的承擔(已訂約但未撥備)	2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
		-	84,538

42. 資本開支承擔



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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43. STATEMENT OF FINANCIAL POSITION AND RESERVES OF THE COMPANY 43. 本公司財務狀況表及儲備

		2019 2019年 RMB'000 人民幣千元	2018 2018年 RMB'000 人民幣千元
Non-current assets	非流動資產		
Property, plant and equipment	物業、廠房及設備	219	272
Amounts due from subsidiaries	應收附屬公司款項	300,000	201,791
Investments in subsidiaries	於附屬公司的投資	1,082,859	1,082,859
		1,383,078	1,284,922
Current assets	流動資產		
Inventories	存貨	-	6,704
Prepayments, deposits and other receivables	預付款項、按金及其他應收款項	10,223	6,462
Equity instrument at fair value through profit or loss	按公允價值計入損益的股本工具	45,693	-
Amounts due from subsidiaries	應收附屬公司款項	7,689	3,931
Bank balances and cash	銀行結餘及現金	71,331	318,979
		134,936	336,076
Current liabilities	流動負債		
Other payables, deposits received and accrued expenses	其他應付款項、已收按金及應計開支	20,102	29,864
Net current assets	流動資產淨值	114,834	306,212
Net assets	資產淨值	1,497,912	1,591,134
Capital and reserves	股本及儲備		
Share capital	股本	67	67
Reserves	儲備	1,497,845	1,591,067
		1,497,912	1,591,134



43. STATEMENT OF FINANCIAL POSITION AND RESERVES OF THE COMPANY (Continued)

The movements in the reserves of the Company are shown as follows:

本公司儲備變動列示如下：

		Treasury shares	Share premium	Merger reserve	Other reserve	Accumulated losses	Total
		庫存股份	股份溢價賬	合併儲備	其他儲備	累計虧損	總計
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
At 1 January 2018	於2018年1月1日	(2)	502,520	371,500	(130,310)	(304,267)	439,441
Profit and total comprehensive income for the year	年內溢利及全面收益總額	-	-	-	-	132,359	132,359
Recognition of share-based payment expense	確認以股份為基礎的付款開支	-	8,442	-	-	-	8,442
Forfeiture of pre-IPO share awards	沒收首次公開發售前獎勵股份	-	74	-	-	-	74
Repurchase of ordinary shares	購回普通股	(1,799)	-	-	-	-	(1,799)
Conversion of Class B and C convertible ordinary shares into ordinary shares	B類及C類可轉換普通股轉換為普通股	-	621,567	-	-	-	621,567
Issue of new shares upon listing	於上市時發行新股份	-	390,983	-	-	-	390,983
At 31 December 2018	於2018年12月31日	(1,801)	1,523,586	371,500	(130,310)	(171,908)	1,591,067
Loss and total comprehensive expense for the year	年內虧損及全面開支總額	-	-	-	-	(13,795)	(13,795)
Profit appropriation	溢利撥款	-	-	-	-	(79,766)	(79,766)
Recognition of share-based payment expense	確認以股份為基礎的付款開支	-	3,317	-	-	-	3,317
Repurchase and cancellation of ordinary shares	購回及註銷普通股	1,799	(4,777)	-	-	-	(2,978)
At 31 December 2019	於2019年12月31日	(2)	1,522,126	371,500	(130,310)	(265,469)	1,497,845



Notes to the Consolidated Financial Statements (Continued)

綜合財務報表附註（續）

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44. PARTICULARS OF SUBSIDIARIES

At the end of the each reporting period, the Company has shareholding/equity interests in the following subsidiaries:

44. 附屬公司詳情

於各報告期末，本公司於下列附屬公司擁有股權／股本權益：

Name of subsidiary 附屬公司名稱	Place of establishment 成立地點	Nature of legal entity 法人實體的性質	Issued and fully paid share capital/registered capital 已發行及繳足股本／註冊資本	Proportion of nominal value of issued capital/registered capital held by the Company 本公司持有已發行股本面值／註冊資本比例		Principal activities 主要業務
				2019 2019年 %	2018 2018年 %	
CBEE Holdings Co., Ltd. ("CBEE")*	BVI	Limited liability company	-	100	100	Investment holding
CBEE Holdings Co., Ltd. (「CBEE」)	英屬處女群島	有限責任公司	-			投資控股
Beijing Shengyi Tiancheng Environmental SCI-TECH Co., Ltd. ("Beijing Shengyi")*	The PRC 中國	Wholly foreign owned enterprise 外商獨資企業	RMB371,500,000 人民幣371,500,000元	100	100	Investment holding 投資控股
北京聖邑天成環保科技有限公司 (「北京聖邑」)						
Beijing Bosheng Environmental SCI-TECH Co., Ltd. ("Beijing Bosheng")	The PRC 中國	Limited liability company 有限責任公司	RMB10,000,000 人民幣10,000,000元	100	100	Investment holding 投資控股
北京博聖環保科技有限公司 (「北京博聖」)						
Beijing Boqi	The PRC 中國	Limited liability company 有限責任公司	RMB400,000,000 人民幣400,000,000元	100	100	Environmental protection facilities engineering, operation and maintenance services 環保設施工程、運營與維護服務
北京博奇						
Jinggangshan Boqi	The PRC 中國	Limited liability company 有限責任公司	RMB81,000,000 人民幣81,000,000元	100	100	Concession operation services 特許經營服務
井岡山博奇						
Zhejiang Boqi Electric Power SCI-TECH Co., Ltd.	The PRC 中國	Limited liability company 有限責任公司	RMB20,000,000 人民幣20,000,000元	100	100	Inactive 暫無營業
浙江博奇電力科技有限公司						
Puzhou Boqi	The PRC 中國	Limited liability company 有限責任公司	RMB55,000,000 人民幣55,000,000元	100	100	Concession operation services 特許經營服務
蒲州博奇						
Hejin Boqi	The PRC 中國	Limited liability company 有限責任公司	RMB25,000,000 人民幣25,000,000元	100	100	Concession operation services 特許經營服務
河津博奇						



44. PARTICULARS OF SUBSIDIARIES (Continued)

44. 附屬公司詳情(續)

Name of subsidiary 附屬公司名稱	Place of establishment 成立地點	Nature of legal entity 法人實體的性質	Issued and fully paid share capital/registered capital 已發行及繳足股本/註冊資本	Proportion of nominal value of issued capital/registered capital held by the Company 本公司持有已發行股本面值/註冊資本比例		Principal activities 主要業務
				2019 2019年 %	2018 2018年 %	
Anhui Nengda Fuel Co., Ltd. 安徽能達燃料有限公司	The PRC 中國	Limited liability company 有限責任公司	RMB20,000,000 人民幣20,000,000元	100	100	Sale of coal and chemicals 煤及化學品銷售
Shanxi Bo Yuan Qi Cheng Environmental Equipment Service Co., Ltd. 山西博源奇晟環保設備服務有限公司	The PRC 中國	Limited liability company 有限責任公司	RMB10,000,000 人民幣10,000,000元	100	100	Operation and maintenance services 環保設施工程、運營與維護服務
Changjizhou Boqi 昌吉州博奇	The PRC 中國	Limited liability company 有限責任公司	RMB140,000,000 人民幣140,000,000元	100	100	Environmental protection facility engineering, operation and maintenance services, concession operation services 環保設施工程、運營與維護服務、特許經營服務
Beijing Boqi Environmental Remediation Tech Co. Ltd. 北京博奇環境修復有限公司	The PRC 中國	Limited liability company 有限責任公司	RMB3,000,000 人民幣3,000,000元	60	60	Technology services, engineering and exploration services 技術服務、工程及勘探服務
Huainan Boqi 淮南博奇	The PRC 中國	Limited liability company 有限責任公司	RMB50,000,000 人民幣50,000,000元	100	100	Environmental protection facility engineering, operation and maintenance services 環保設施工程、運營與維護服務
Changzhi Boqi 長治博奇	The PRC 中國	Limited liability company 有限責任公司	RMB128,000,000 人民幣128,000,000元	100	N/A	Sewage treatment and recycling service 污水處理及回收服務
Laibin Boqi 來賓博奇	The PRC 中國	Limited liability company 有限責任公司	RMB80,000,000 人民幣80,000,000元	100	N/A	Environmental protection facility engineering, operation and maintenance services 環保設施工程、運營與維護服務

* Except for CBEE and Beijing Shengyi, all of the above subsidiaries are indirectly held by the Company.

* 除CBEE及北京聖邑外，上述所有附屬公司均由本公司間接持有。



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44. PARTICULARS OF SUBSIDIARIES (Continued)

All subsidiaries operate in the PRC. Except for Beijing Shengyi which is a wholly-foreign owned enterprise, other subsidiaries established in the PRC are wholly domestic owned enterprises.

None of the subsidiaries had any debt securities subsisted at the end of the reporting period.

45. SUBSEQUENT EVENTS

On 15 January 2020, the Group has entered into sale and leaseback transactions with a financial institution in order to obtain 5-year financing of RMB350 million by disposing of certain desulfurization and denitrification equipment of the Group. The transaction has not been completed as of the date of approval of these consolidated financial statements.

The novel coronavirus (“**COVID-19**”) outbreak has spread across the PRC since January 2020, the prevention and control of COVID-19 has been ongoing nationwide. According to the current situation, this outbreak will have certain impact on the business operations of the Group. The Group will monitor the developments of COVID-19 situation closely, assess and react actively to its impact on the financial position and operating results of the Group. As of the date of the approval of these consolidated financial statements, this assessment is still under way.

44. 附屬公司詳情（續）

所有附屬公司均在中國經營。除北京聖邑為外商獨資企業外，其他在中國成立的附屬公司均為國內獨資企業。

於報告期末概無附屬公司持有任何存續的債務證券。

45. 期後事項

於2020年1月15日，本集團與一間金融機構訂立售後租回交易，據此透過出售本集團若干脫硫及脫硝設備來獲取人民幣350百萬元的5年期融資。截至此等綜合財務報表獲批准日期該交易尚未完成。

中國自2020年1月起爆發新型冠狀病毒（「**COVID-19**」）並蔓延全國，自此全國一直實行預防及控制措施。根據現時情況，疫情會對本集團的業務經營造成一定影響。本集團將密切監察COVID-19疫情的發展情況，評估對本集團財務狀況及經營業績的影響並積極應對。截至此等綜合財務報表獲批准日期，有關評估仍在進行中。

中国博奇环保(控股)有限公司

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