

# 國電科技環保集團股份有限公司

GUODIAN TECHNOLOGY & ENVIRONMENT GROUP CORPORATION LIMITED\*

(於中華人民共和國註冊成立的股份有限公司)

(a joint stock limited liability company incorporated in the People's Republic of China)

Stock Code 股份代號 : 01296

www.01296.hk

# 2017

## ANNUAL REPORT 年度報告



# TOP 10 MILESTONES OF GUODIAN TECH 2017

## 國電科環2017年度十大新聞



3.16

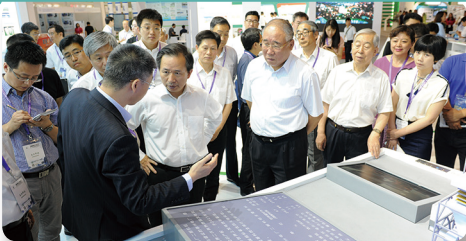
新龍源節能揭牌儀式在北京舉行  
The new Longyuan Energy Saving was inaugurated in Beijing



龍源環保承建的中石化重點工程高標準竣工移交  
The major project of Sinopec constructed by Longyuan Environmental was completed and transferred with a high-standard

5.26

國電智深成功中標印尼某燃煤電廠2 x 1050MW機組DCS項目  
Guodian Zhishen won the bid of DCS project of 2 x 1050 MW units of an Indonesian coal-fired power plant successfully



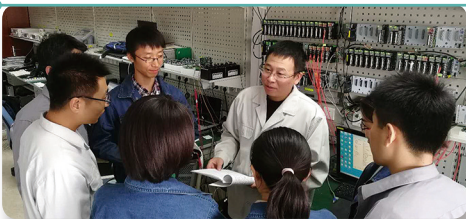
6.15

環境保護部領導參觀第十五屆中國國際環保展覽會國電科環展臺  
Leaders of the Ministry of Environmental Protection visited the booth of Guodian Tech at the 15th China International Environmental Protection Exhibition



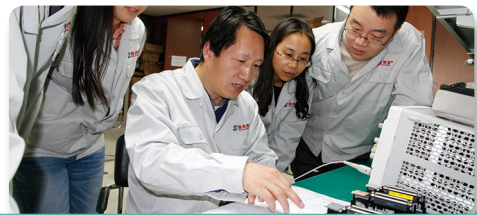
6.28

龍源電氣由雨聰同志榮獲「大國工匠」稱號  
Tian Yucong from Longyuan Electrical won the title of "Great Country Craftsmen"



6.30

國電智深陳峰同志當選黨的十九代表  
Chen Feng from Guodian Zhishen was elected as a delegate of the 19th CPC National Congress



10.12

國電科環及聯合動力雙雙入圍2017年全球新能源企業500強  
Guodian Tech and United Power both were elected as 2017 Global Top 500 New Energy Enterprises



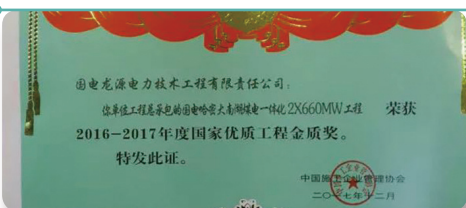
11.20

龍源電氣成功研發風電3.0兆瓦水冷變流器  
Longyuan Electrical developed 3.0 MW water-cooled converters for wind power successfully



12.12

聯合動力榮獲2017年度中國電力創新獎一等獎  
United Power won the first prize of China Power Innovation Award 2017



12.13

龍源工程哈密項目獲得國家優質工程金質獎  
Hami project constructed by Longyuan Technology and Engineering won the golden prize of National Quality Engineering Award



12.14



# SIGNIFICANT COMPANY EVENTS IN 2017

## 2017年度企業大事記



1. On 9 January, Guodian United Power Technology Co., Ltd. (“**United Power**”) participated in the project “Key Technology and Application of New Energy Power Generation Dispatching and Operation”, which won the second prize of the National Science and Technology Progress Award 2016, indicating the overall innovative capacity and research and development (“**R&D**”) strength of the Company, representing the strong competitiveness and brand influence of United Power in the field of manufacturing of new energy equipment.
1. 1月9日，國電聯合動力技術有限公司(「**聯合動力**」)參加研究的「新能源發電調度運行關鍵技術及應用」項目獲得2016年國家科技進步二等獎，是本公司創新能力和研發實力的綜合體現，標誌著本公司在新能源裝備製造領域具有非常強勁的競爭力和品牌影響力。
2. On 10 March, “Double Circulation Limestone Gypsum Wet Desulphurisation Technology” of Beijing Guodian Longyuan Environmental Engineering Co., Ltd. (“**Longyuan Environmental**”) won the second prize of the Electric Power Construction Science and Technology Advancement Award 2017.
2. 3月10日，北京國電龍源環保工程有限公司(「**龍源環保**」)「雙循環石灰石膏濕法脫硫技術」榮獲2017年度電力建設科學技術進步二等獎。
3. On 12 May, Longyuan Environmental ranked the first place in terms of the five indicators released by China Electricity Council (“**CEC**”) in 2016, including total desulphurisation, denitrification and dedusting units of thermal power plant put into operation in 2016, flue gas desulphurisation units newly put into operation in 2016, and the capacity of the denitrification units in operation under entrustment. The company has achieved excellent statistical results in these aspects for 12 years successively.
3. 5月12日，龍源環保在中國電力企業聯合會(「**中電聯**」)發佈的2016年度火電廠累計投運脫硫、脫硝、除塵機組、2016年新投運煙氣脫硫及在運的火電廠脫硝委託運營機組容量5項指標中名列第一，這是本公司連續12年在該統計中取得優異成績。
4. On 15 June, the delegation led by Li Ganjie, secretary of the Party Leadership Group of the Ministry of Environmental Protection of the PRC, and Xie Zhenhua, special representative of China for climate change affairs of the PRC, visited and guided the exhibition booth of the Company at the 15th China International Environmental Protection Exhibition and Conference (“**CIEPEC**”). At CIEPEC, the Company further promoted its environmental protection technologies and products to the world and the industry.
4. 6月15日，中國環境保護部黨組書記李幹傑、中國氣候變化事務特別代表解振華一行蒞臨第十五屆中國國際環保展覽會國電科環展臺進行參觀指導。本公司將進一步向世界和行業推廣其環保技術和產品。
5. On 30 June, Chen Feng from Beijing Guodian Zhishen Control Technology Co., Ltd (“**Guodian Zhishen**”) was elected as the delegate to the 19th CPC National Congress from the central enterprise system.
5. 6月30日，北京國電智深控制技術有限公司(「**國電智深**」)陳峰同志當選中央企業系統黨的十九大代表。
6. On 4 August, the 3MW offshore wind turbine hoisting of the Zhuhai Guishan Project of United Power was officially launched. The project is the first offshore wind power project in Guangdong Province, and the water depth of the wind farm site is 8–11 meters. After the project is completed and put into operation, it can save 86,600 tons of standard coal per year, and reduce 206,700 tons of CO<sub>2</sub> emissions, bringing remarkable social and economic benefits.
6. 8月4日，聯合動力珠海桂山項目3MW海上風機吊裝正式啟動，該項目是廣東省第一個海上風電項目工程，風電場址水深8–11米，項目建成投產後每年可節約標煤8.66萬噸、減排二氧化碳20.67萬噸，社會經濟效益顯著。
7. On 9 August, CEC announced the competition result of statistical indicators of production and operation for the year 2016 among the national wind farms. Among the award-winning wind farms in 2016, a total of 53 wind farms (wind power enterprises) selected the United Power wind turbine generator sets, accounting for nearly 1/5 of all the award-winning wind farms (wind power enterprises).
7. 8月9日，中電聯公佈2016年度全國風電場生產運行統計指標對標及競賽獲獎風電企業名單。在2016年獲獎風電場中，共有53個風電場(風電企業)選用聯合動力風力發電機組，佔全部獲獎風電場(風電企業)的近五分之一。



## SIGNIFICANT COMPANY EVENTS IN 2017 (CONTINUED)

### 2017年度企業大事記(續)



8. On 15 October, Qiao Baoping, secretary of the Party Leadership Group and the board chairman of China Guodian Corporation Ltd. (“**Guodian Group**”), and Zhang Guohou, vice secretary of the Party Leadership Group and vice general manager of Guodian Group, met Chen Feng and Zhao Hui, the delegates to the 19th CPC National Congress, and had a cordial talk with them at Guodian Tech.
9. On 17 November, as the wind turbine unit supplier and service provider, United Power completed the supply, commissioning and grid-connected power generation of the wind power project of Longyuan Power Group Corporation Limited\* (“**Longyuan Power**”, a subsidiary of Guodian Group) in De Aar, South Africa, which is the largest single wind power project in China’s “Going Out” Strategy. ZHANG Guohou, vice party group secretary and vice general manager of Guodian Group, attended the completion and commissioning ceremony in De Aar, South Africa, the officials from the Embassy of the People’s Republic of China in South Africa and the local government of South Africa were invited to participate in the ceremony.
10. On 24 November, the annual meeting of China Society for Electrical Engineering was held in Nanning, Guangxi. The “Load Coupling Mechanism and Control Key Technology and Application of Wind Turbine Based on Flexible Multi-body Dynamics” project of United Power won the first prize of China Electric Power Science and Technology Progress Award 2017.
11. On 13 December, the summing-up and commendation meeting of the National Quality Engineering Gold Award 2016–2017 was held at the Great Hall of the People, Beijing. The Guodian Hami Dananhu Coal Power Integrated 2 x 660MW Project, of which Guodian Longyuan Power Technology & Engineering Co., Ltd. (“**Longyuan Engineering**”), as the general contractor, won the gold prize of National Quality Engineering Award 2016–2017.
12. On 14 December, at the award ceremony of China Electric Power Innovation Award 2017, the “Wind Power Generator Sets Load Reduction Key Technology Research and Application” Project of United Power won the first prize of China Power Innovation Award 2017. United Power has won this award for a second successive year.
8. 10月15日，中國國電集團有限公司(「**國電集團**」)黨組書記、董事長喬保平，黨組副書記、副總經理張國厚在國電科環會見了黨的十九大代表陳峰、趙輝，並與他們親切座談。
9. 11月17日，聯合動力作為風電機組供貨及服務商完成了中國「走出去」最大單體風電項目—龍源電力集團股份有限公司(「**龍源電力**」，國電集團之附屬公司)南非德阿風電項目的供貨及調試並網發電。國電集團黨組副書記、副總經理張國厚在南非德阿出席了竣工投產儀式，中國駐南非大使館、南非當地政府有關領導作為受邀嘉賓參加了儀式。
10. 11月24日，2017年中國電機工程學會年會在廣西南寧召開，聯合動力「基於柔性多體動力學的風電機組載荷耦合機理及控制關鍵技術與應用」項目榮獲2017年度中國電力科學技術進步獎一等獎。
11. 12月13日，2016至2017年度國家優質工程金質獎總結表彰大會在北京人民大會堂召開。由國電龍源電力技術工程有限責任公司(「**龍源工程**」)總承包的國電哈密大南湖煤電一體化2 x 660MW工程摘得2016至2017年度國家優質工程金質獎。
12. 12月14日，在2017年度中國電力創新獎頒獎儀式上，聯合動力「風電機組降載關鍵技術研究及應用」項目被授予2017年度中國電力創新獎一等獎。這也是聯合動力連續第二年獲此殊榮。





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# CORPORATE INFORMATION

## 公司資料



### DIRECTORS

#### Executive Directors

Mr. CHEN Dongqing (*Chairman*)<sup>(1)</sup>  
Mr. ZHANG Jun (*General Manager*)<sup>(2)</sup>  
Mr. TANG Chaoxiong

#### Non-executive Directors

Mr. WANG Zhongqu  
Mr. ZHANG Wenjian  
Mr. GU Yuchun<sup>(3)</sup>  
Mr. YAN Andrew Y.

#### Independent Non-executive Directors

Mr. SHEN Xiaoliu  
Mr. QU Jiuhui  
Mr. XIE Qiuye  
Mr. YEUNG Chi Tat<sup>(4)</sup>

### SUPERVISORS

Mr. LUAN Baoxing (*Chairman*)<sup>(5)</sup>  
Mr. XU Xingzhou<sup>(6)</sup>  
Mr. YANG Xiangbin<sup>(7)</sup>  
Ms. HE Lili  
Mr. LI Wei

### LEGAL ADVISORS

#### International

King & Wood Mallesons (as to Hong Kong law)  
13/F, Gloucester Tower  
The Landmark  
15 Queen's Road Central, Central  
Hong Kong

#### PRC

Beijing King & Capital Law Firm (as to PRC law)  
23rd Floor, Tower C, Office Park  
No. 5 Jinghua South Street, Chaoyang District  
Beijing, PRC, 100020

### AUDITORS

#### International

KPMG  
Certified Public Accountants  
8th Floor, Prince's Building  
10 Chater Road, Central  
Hong Kong

### 董事

#### 執行董事

陳冬青先生(*主席*)<sup>(1)</sup>  
張軍先生(*總經理*)<sup>(2)</sup>  
唐超雄先生

#### 非執行董事

王忠渠先生  
張文建先生  
顧玉春先生<sup>(3)</sup>  
閻焱先生

#### 獨立非執行董事

申曉留先生  
曲久輝先生  
謝秋野先生  
楊志達先生<sup>(4)</sup>

### 監事

樂寶興先生(*主席*)<sup>(5)</sup>  
許興洲先生<sup>(6)</sup>  
楊向斌先生<sup>(7)</sup>  
何麗麗女士  
李偉先生

### 法律顧問

#### 國際

金杜律師事務所(有關香港法律)  
香港中環  
皇后大道中15號  
置地廣場  
告羅士打大廈13樓

#### 中國

北京市京都律師事務所(有關中國法律)  
中國北京市朝陽區景華南街5號  
遠洋•光華國際C座23層(100020)

### 核數師

#### 國際

畢馬威會計師事務所  
執業會計師  
香港中環  
遮打道10號  
太子大廈8樓

## PRC

Mazars Certified Public Accountants  
(Special General Partnership)  
15/F, Building 7  
Yard 16, W. 4th Ring Rd  
Haidian District, Beijing, PRC

## JOINT COMPANY SECRETARIES

Mr. CAI Zhaowen<sup>(9)</sup>  
Ms. MOK Ming Wai

## AUTHORIZED REPRESENTATIVES

Mr. CHEN Dongqing<sup>(1)</sup>  
Ms. MOK Ming Wai

## LEGAL ADDRESS

Suite 1101, 11/F, Building 1  
Yard 16, W. 4th Ring Rd  
Haidian Dist., Beijing, PRC

## HEAD OFFICE IN PRC

Building 1  
Yard 16, W. 4th Ring Rd  
Haidian Dist., Beijing, PRC

## PRINCIPAL PLACE OF BUSINESS IN HONG KONG

Flat L, 15/F, Hong Kong Mansion  
1 Yee Wo Street, Causeway Bay  
Hong Kong

## NOMINATION COMMITTEE

Mr. XIE Qiuye (*Chairman*)  
Mr. QU Jiuhui  
Mr. TANG Chaoxiong

## AUDIT COMMITTEE

Mr. YEUNG Chi Tat (*Chairman*)<sup>(4)</sup>  
Mr. SHEN Xiaoli  
Mr. ZHANG Wenjian

## 中國

中審眾環會計師事務所  
(特殊普通合夥)  
中國北京市海澱區  
西四環中路16號院  
7號樓15層

## 聯席公司秘書

蔡兆文先生<sup>(9)</sup>  
莫明慧女士

## 授權代表

陳冬青先生<sup>(1)</sup>  
莫明慧女士

## 法定地址

中國北京市海澱區  
西四環中路16號院  
1號樓11層1101室

## 中國主要辦事處

中國北京市海澱區  
西四環中路16號院  
1號樓

## 香港主要營業地點

香港  
銅鑼灣怡和街1號  
香港大廈15樓L室

## 提名委員會

謝秋野先生(*主席*)  
曲久輝先生  
唐超雄先生

## 審計委員會

楊志達先生(*主席*)<sup>(4)</sup>  
申曉留先生  
張文建先生



## REMUNERATION AND APPRAISAL COMMITTEE

Mr. QU Jiuhui (*Chairman*)  
Mr. XIE Qiuye  
Mr. WANG Zhongqu

## STRATEGIC COMMITTEE

Mr. CHEN Dongqing (*Chairman*)<sup>(1)</sup>  
Mr. SHEN Xiaoliu  
Mr. GU Yuchun<sup>(3)</sup>  
Mr. YAN Andrew Y.  
Mr. ZHANG Jun<sup>(2)</sup>

## H SHARE REGISTRAR

Computershare Hong Kong Investor Services Limited

## WEBSITE ADDRESS

www.01296.hk

## PRINCIPAL BANKS

Industrial and Commercial Bank of China Limited  
(Beijing Wukesong Olympic Sub-branch)  
Bank of Communications Corporation Limited (Hong Kong Branch)

### Notes:

- (1) Mr. Chen Dongqing, an executive director of the Company, was elected as the chairman of the board of directors of the Company (the “**Board of Directors**”) on 3 May 2017 and was appointed as the chairman of the strategic committee of the Company (“**Strategic Committee**”) and the authorized representative of the Company under Rule 3.05 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the “**Stock Exchange**”) (“**Listing Rules**”). At the first extraordinary general meeting in 2017 held on 8 August 2017, Mr. Chen Dongqing was elected as the executive director of the third session of the Board of Directors and subsequently, he was elected by the Board of Directors as the chairman of the third session of the Board of Directors, and was appointed as the chairman of the strategic committee. For more details, please refer to the announcements of the Company dated 4 May 2017 and 8 August 2017.

On 3 May 2017, Mr. Yang Guang resigned from chairman and executive director of the Board of Directors as well as the chairman of the Strategic Committee and the authorized representative of the Company under Rule 3.05 of the Listing Rules, and was elected as the non-executive director of the Company at the same day. After the expiration of the second session of the Board of Directors on 8 August 2017, Mr. Yang Guang did not participate in the election for the third session of the Board of Directors. For more details, please refer to the announcements of the Company dated 4 May 2017 and 8 August 2017.

## 薪酬與考核委員會

曲久輝先生(主席)  
謝秋野先生  
王忠渠先生

## 戰略委員會

陳冬青先生(主席)<sup>(1)</sup>  
申曉留先生  
顧玉春先生<sup>(3)</sup>  
閻焱先生  
張軍先生<sup>(2)</sup>

## H股證券登記處

香港中央證券登記有限公司

## 網址

www.01296.hk

## 主要往來銀行

中國工商銀行股份有限公司  
(北京五棵松奧體支行)  
交通銀行股份有限公司(香港分行)

### 附註:

- (1) 本公司執行董事陳冬青先生於2017年5月3日獲選為本公司董事會(「**董事會**」)董事長，並獲委任為本公司戰略委員會(「**戰略委員會**」)主席及香港聯合交易所有限公司(「**聯交所**」)證券上市規則(「**上市規則**」)第3.05條而言的本公司授權代表。於2017年8月8日召開的2017年第一次臨時股東大會上，陳冬青先生獲選舉為本公司第三屆董事會執行董事，及後獲董事會選舉為第三屆董事會董事長，及獲委任為戰略委員會主席。有關詳情請參閱本公司日期為2017年5月4日及2017年8月8日的公告。

陽光先生於2017年5月3日辭任本公司董事長及執行董事職務，並不再擔任戰略委員會主席及上市規則第3.05條而言的本公司授權代表，同日調任為本公司非執行董事。於2017年8月8日的第二屆董事會任期屆滿後，陽光先生未有參與本公司第三屆董事會重選，有關詳情請參閱本公司日期為2017年5月4日及2017年8月8日的公告。



(2) At the first extraordinary general meeting in 2017 held on 8 August 2017, Mr. Zhang Jun was elected as the executive director of the third session of the Board of Directors. Subsequently, he was appointed by the Board of Directors as the member of the Strategic Committee. For more details, please refer to the announcement of the Company dated 8 August 2017.

(3) At the first extraordinary general meeting in 2017 held on 8 August 2017, Mr. Gu Yuchun was elected as the non-executive director of the third session of the Board of Directors. Subsequently, he was appointed by the Board of Directors as the member of the Strategic Committee.

Mr. Feng Shuchen, former non-executive director, after the expiration of the tenure for the second session of the Board of Directors, did not participate in the election for the third session of the Board of Directors. For more details, please refer to the announcement of the Company dated 8 August 2017.

(4) At the first extraordinary general meeting in 2017 held on 8 August 2017, Mr. Yeung Chi Tat was elected as the independent non-executive director of the third session of the Board of Directors. Subsequently, he was appointed by the Board of Directors as the chairman of the audit committee of the Company (“**Audit Committee**”).

Mr. Fan Renda Anthony, former independent non-executive director of the Company, after the expiration of the tenure for the second session of the Board of Directors, did not participate in the election for the third session of the Board of Directors. For more details, please refer to the announcement of the Company dated 8 August 2017.

(5) At the first extraordinary general meeting in 2017 held on 8 August 2017, Mr. Luan Baoxing was elected as the supervisor of the third session of board of supervisors (the “**Board of Supervisors**”) of the Company. Subsequently, he was elected by the Board of Supervisors as the chairman of the third session of Board of Supervisors. For more details, please refer to the announcement of the Company dated 8 August 2017.

(6) At the first extraordinary general meeting in 2017 held on 8 August 2017, Mr. Xu Xingzhou was elected as the supervisor of the third session of the Board of Supervisors. For more details, please refer to the announcement of the Company dated 8 August 2017.

(7) At the first extraordinary general meeting in 2017 held on 8 August 2017, Mr. Yang Xiangbin was elected as the supervisor of the third session of the Board of supervisors of the Company. For more details, please refer to the announcement of the Company dated 8 August 2017.

(8) At the second meeting of the second session of the Board of Directors for 2017 held on 30 March 2017, Mr. Cai Zhaowen was appointed as the joint company secretary of the Company. For more details, please refer to the announcement of the Company dated 30 March 2017.

(2) 張軍先生於2017年8月8日召開的2017年第一次臨時股東大會上獲選舉為本公司第三屆董事會執行董事。及後獲董事會委任為戰略委員會委員，有關詳情請參閱本公司日期為2017年8月8日的公告。

(3) 顧玉春先生於2017年8月8日召開的2017年第一次臨時股東大會上獲選舉為本公司第三屆董事會非執行董事。及後獲董事會委任為戰略委員會委員。

本公司原非執行董事馮樹臣先生於2017年8月8日的第二屆董事會任期屆滿後，未有參與本公司第三屆董事會重選。有關詳情請參閱本公司日期為2017年8月8日的公告。

(4) 楊志達先生於2017年8月8日召開的2017年第一次臨時股東大會上獲選舉為本公司第三屆董事會獨立非執行董事。及後獲董事會委任為審計委員會(「**審計委員會**」)主席。

本公司原獨立非執行董事范仁達先生於2017年8月8日的第二屆董事會任期屆滿後，未有參與本公司第三屆董事會重選。有關詳情請參閱本公司日期為2017年8月8日的公告。

(5) 樂寶興先生於2017年8月8日召開的2017年第一次臨時股東大會上獲選舉為本公司第三屆監事會監事，及後獲監事會選舉為第三屆監事會主席。有關詳情請參閱本公司日期為2017年8月8日的公告。

(6) 許興洲先生於2017年8月8日召開的2017年第一次臨時股東大會上獲選舉為本公司第三屆監事會監事。有關詳情請參閱本公司日期為2017年8月8日的公告。

(7) 楊向斌先生於2017年8月8日召開的2017年第一次臨時股東大會上獲選舉為本公司第三屆監事會監事。有關詳情請參閱本公司日期為2017年8月8日的公告。

(8) 蔡兆文先生於2017年3月30日召開的第二屆董事會2017年第二次會議上獲聘任為本公司聯席公司秘書。有關詳情請參閱本公司日期為2017年3月30日的公告。



# CORPORATE PROFILE

## 公司介紹



Guodian Tech, formerly Guodian Technology & Environment Group Co., Ltd., was converted into a joint stock limited liability company on 16 May 2011 and listed on the Main Board of the Stock Exchange on 30 December 2011. The Company, together with its subsidiaries (the “Group”), is the flagship platform for environmental protection and energy conservation solutions and renewable energy equipment manufacturing and solutions businesses within Guodian Group and its subsidiaries and associates.

The principal businesses of the Company are carried out under two segments, namely, the environmental protection and energy conservation solutions business, and the renewable energy equipment manufacturing and services business. The Company, with its advanced technologies and diversified business models, is a leading market player in the PRC in these industries. In 2017, the Company was again elected as one of the Global Top 500 New Energy Enterprises, and ranked 44th among them. Our subsidiary United Power ranked 111th among the Global Top 500 New Energy Enterprises.

In its environmental protection and energy conservation solutions business, the Group is the largest supplier of technology and integrated systems solutions to coal-fired power plants in the PRC, providing innovative and advanced technology designed to reduce pollutant emissions and to maximize efficiency of resource utilization, with the overall objective of reducing the environmental impacts of coal-fired electricity generation while maximizing cost-efficiency and profitability for its customers. Leveraging on its comprehensive environmental protection and energy conservation technologies and solutions for all aspects of coal-fired power plants (with the core business lines being, water treatment, plasma ignition and combustion stabilization and energy management contracts), the Group is capable of providing one-stop solutions to its customers that are tailored to meet their specific needs. The Group is also one of the leading manufacturers of wind power generation equipment in the PRC in its renewable energy equipment manufacturing and services business, with a well-established brand and is well-known for its product quality and high standards of performance. In line with its strategic focus on providing integrated solutions and services, the Group also provides renewable energy related services such as the maintenance and repair of wind turbine generators.

國電科環前身為國電科技環保集團有限公司，於2011年5月16日正式改製成為股份有限公司並於2011年12月30日在聯交所主板上市。本公司及附屬公司(「本集團」)是國電集團及其附屬公司和聯營公司致力於環保節能解決方案和可再生能源設備製造及解決方案業務的旗艦平台。

本公司之主營業務分為兩部分，即環保節能解決方案業務和可再生能源設備製造及服務業務。本公司憑藉其先進的技術和多元化的業務模式躋身於國內行業領先地位。2017年，本公司再次入選全球新能源企業500強，排名第44位。附屬公司聯合動力則名列全球新能源企業500強第111位。

於環保節能解決方案業務方面，本集團為中國最大的燃煤電廠技術及集成系統解決方案供貨商，提供為減少污染物排放及提升資源利用效率而設計的創新和先進的技術，整體目標為減低燃煤發電相關的環境影響，以及提升其客戶的成本效益及盈利能力。憑藉其為燃煤電廠提供的全方面綜合環保節能技術及解決方案(核心業務為脫硫、脫硝、水處理、等離子體點火穩燃及合同能源管理)，本集團能為其客戶提供「一站式」的解決方案，量身訂製滿足其客戶的特定需要。於可再生能源設備製造及服務業務方面，本集團亦為中國領先的風力發電設備製造商之一，已建立穩固的品牌，並以其產品質量及性能著稱。與其提供集成解決方案及服務的戰略重點一致，本集團亦致力於可再生能源相關服務，如風力發電機組保養及維修業務。



Focusing on technological innovation and industrial applications, the Group has gained a number of innovative achievements in relation to significant technology and product innovation through original creation, resource integration innovation and technological advancements. Among its leading technologies in the PRC and globally, the Group's plasma ignition technology is ranked first in the world. In the domestic market, the Group possesses a leading position in many technologies, including wet flue gas desulphurisation, seawater desulphurisation, boiler low-nitrogen combustion and flue gas denitrification. Longyuan Environmental, Yantai Longyuan Power Technology Co., Ltd. ("**Longyuan Technology**") (SZ.300105), United Power, Beijing Huadian Tianren Power Controlling Technology Co., Ltd. ("**Huadian Tianren**") and Guodian Zhishen have become well-known brand names in the PRC.

As of 31 December 2017, the Group owns four national scientific research platforms including "National Key Laboratory for Wind Power Equipment and System Technology", 12 province-level scientific research platforms, one academician workstation and one post-doctoral scientific research workstation. The Group undertook a grand total of 22 national technology projects, won six national scientific research awards. The patent authorization is up to 1,955 items (including 20 international invention patents, 454 national invention patents). From 2014 to 2017, the revenue realized from transformation of technological achievements is RMB26.7 billion. During the year, the Group has made remarkable achievements in aspects of new WTG model research, thermal power plant ultra-clean discharge treatment, thermal power plant water saving, zero wastewater discharge and comprehensive energy conservation and technology research and development of thermal power plant.

The Company believes that its strategic focus on investing in and promoting R&D as a core activity to support the development of its various businesses has yielded substantial returns, allowing the Company to maintain its established position at the forefront of technological advancements in the environmental protection, energy conservation and renewable energy industries, and to develop innovative, practical and cost-efficient solutions and technological applications and high-quality products in these industries. The Company also believes that these industries will play a key role in the sustainable growth and development of the energy and power sector in the PRC, which in turn is indispensable to the sustainable growth and development of the economy in the PRC. Going forward, the Company will strive to maintain the leading position in the industry, to be a respected high-tech industry company with international influence and competitiveness.

本集團專注於科技創新和產業化應用，通過原始創新、資源集成創新與技術引進並再創新，取得了一大批科技創新成果，有多項技術達到國際、國內領先水平，其中本集團的等離子體點火技術水準居世界第一位，本集團的煙氣濕法脫硫、海水脫硫、鍋爐燃燒降氮及煙氣脫硝技術始終保持國內領先地位，龍源環保、煙台龍源電力技術股份有限公司(「**龍源技術**」)(SZ.300105)、聯合動力、北京華電天仁電力控制技術有限公司(「**華電天仁**」)、國電智深已成為享譽中國的知名品牌。

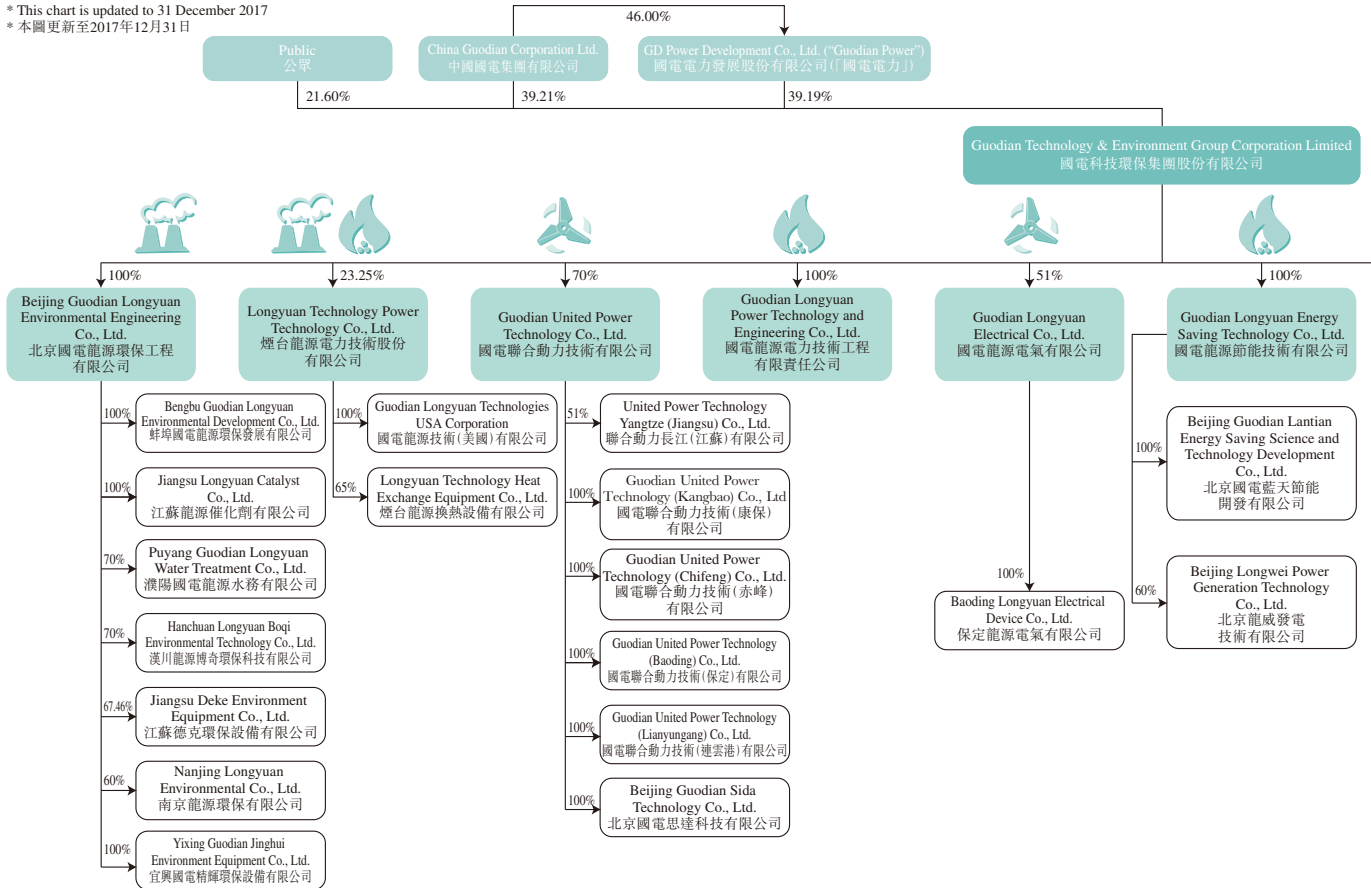
截至2017年12月31日，本集團擁有「風電設備及系統技術國家重點實驗室」等4個國家級科研平台、12個省級科研平台、1個院士工作站及1個博士後科研工作站。本集團累計承擔國家級科技項目22項，累計獲得6項國家級科研獎勵。專利累計授權量達到1,955項(其中國際發明專利20項、國家發明專利454項)，2014至2017年科技成果轉化實現營業收入267億元。本年度在風機新機型研發、火電廠超淨排放治理、火電廠節水及廢水零排放及火電廠綜合節能技術研發等方面取得顯著成果。

本公司相信，以投資和促進技術研發作為核心活動來支持本公司多元化業務的重點戰略已經得到了重大回報；使其能夠保持在環保、節能和可再生能源行業中技術領先的主導地位；使其研發出在相關行業中具有創新性、實用性、節約成本的解決方案和技術應用以及高質量的產品。本公司也相信，這些行業將對中國能源及電力產業的可持續發展起到關鍵作用，而能源的可持續發展又是中國經濟可持續發展不可或缺的部分。展望未來，本公司將為成為在國內保持行業領先、具有國際影響力和競爭力，受人尊敬的高科技產業公司而努力。

# CORPORATE STRUCTURE

## 公司架構

\* This chart is updated to 31 December 2017  
\* 本圖更新至2017年12月31日



Environmental Protection  
環保



Energy Conservation Solutions  
節能解決方案



Wind Power Products and Services  
風電產品及服務

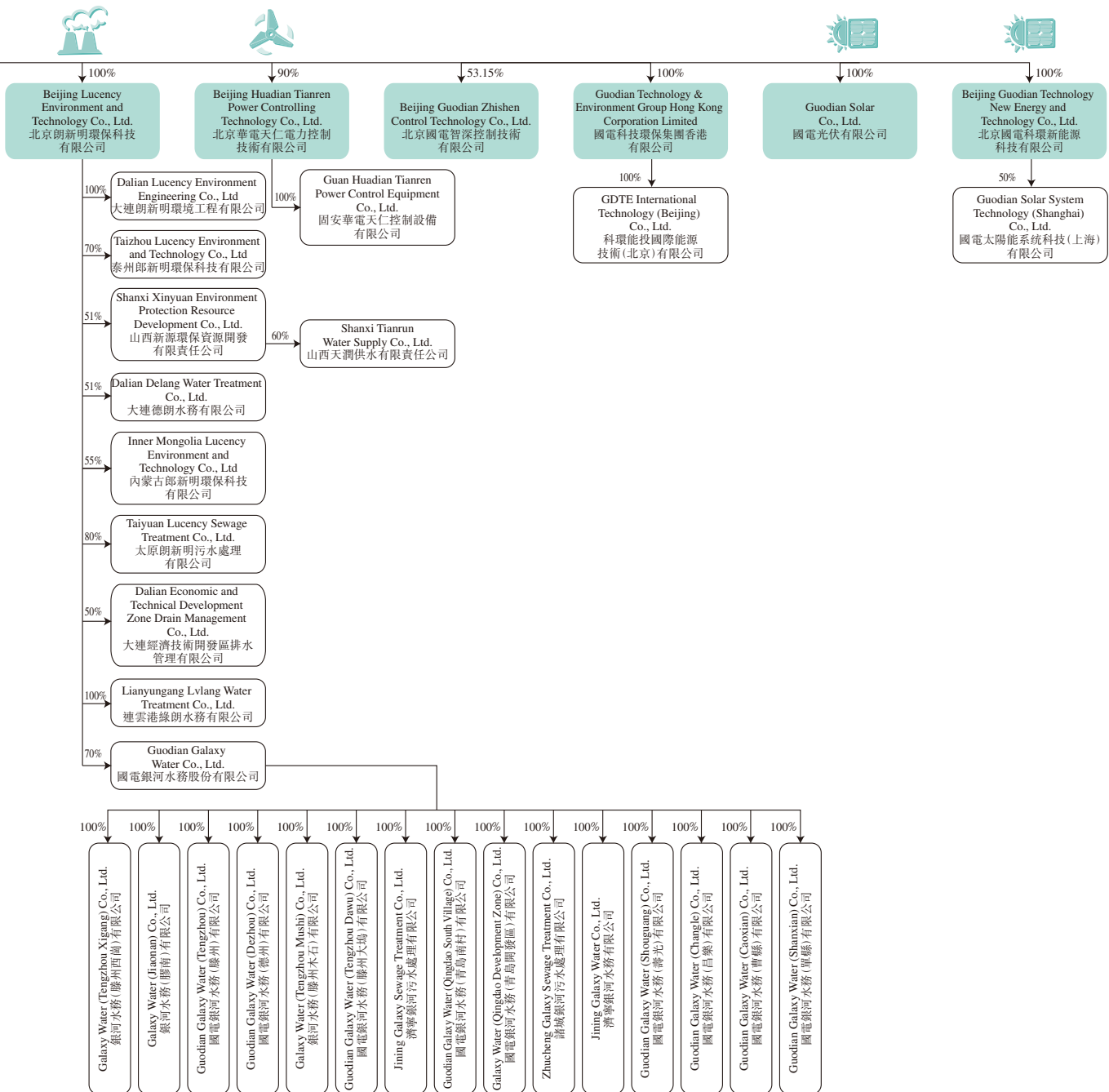


Solar Power Products and Services (Discontinued)  
太陽能產品及服務 (已終止經營)



# CORPORATE STRUCTURE (CONTINUED)

## 公司架構(續)



# CHAIRMAN'S STATEMENT

## 董事長致辭



### Dear Shareholders:

On behalf of the Board of Directors, I am honored to present to you the 2017 annual report of the Group (the “**Annual Report**”).

In 2017, the world economy maintained the recovery trend on the whole. Through quantity accumulation, the economic development in China has entered into the quality enhancement stage and already changed from the high-speed growth

stage to the high-quality development stage. The structural transformation in the industry has gradually deepened and the power industry in China has transformed from market expansion towards quality control. China's strict control over the development of the coal-power industry which has provided opportunities for the development of the new energy-saving and green low-carbon environmental protection industry, and has provided new challenges and opportunities for the transformation of Guodian Tech. Guodian Tech will follow the energy structure adjustment and power technology reform, according to the target proposed at the 19th Communist Party of China (“**CPC**”) National Congress to speed up the reformation of ecological civilization system, build a beautiful China, create a good production and living environment for the people, and contribute to global ecological security. Adhere to the industrial direction of using energy in a cleaner and more efficient manner and win the tough fight against pollution.

Over the years, Guodian Tech has committed to developing and promoting environmental protection and energy conservation solutions and renewable energy technologies while focusing on the breakthrough of a batch of key core technologies, forming a strategic emerging industry cluster with comparative advantages, enhancing its capability to fulfill its corporate social responsibility (CSR) capability and promoting clean electricity production. Guodian Tech is now a leading force in environmental protection, energy conservation and renewable energy in China's electric power sector.

On 5 February 2018, Guodian Group and China Energy Investment Corporation Limited (“**China Energy**”, formerly China Shenhua Energy Company Limited) formally entered into the consolidation agreement to start the implementation of joint reorganization. Upon the completion of the joint reorganization, China Energy will become the world's largest coal group, the world's largest thermal power generation group, the world's largest renewable energy generation group and the world's largest coal-oil chemical industry group. We will always focus on customers with the aim to create value for customers and achieve win-win development, also we will serve the main industry of China Energy and support its development. For this new journey in the new era, we will strive to achieve the highest peak of energy technology in the world.

### 尊敬的股東：

我很榮幸代表董事會向各位股東公佈本集團2017年年度報告(「**年報**」)。

2017年，世界經濟總體保持復蘇態勢，我國經濟發展經過量的積累進入質的提升階段，已經由高速增長階段轉向高質量發展階段。產業結構轉型升級逐步深化，電力行業發展也由規模擴張型向質量效益型轉變。國家對煤電發展進行的嚴格調控，為新型節能和綠色低碳環保產業的發展提供了機會，也為國電科環轉型帶來了新的挑戰和機遇。國電科環將緊緊圍繞能源結構調整和電力技術變革，按照黨的十九大所提出的加快生態文明體制改革，建設美麗中國，為人民創造良好生產生活環境，為全球生態安全作出貢獻為目標。堅持能源利用更加清潔、高效的產業發展方向，打好污染防治攻堅戰。

多年來，國電科環致力於環保節能與可再生能源技術的開發和推廣，著眼於突破一批關鍵核心技術，形成了具有比較優勢的戰略性新興產業集群，提高了履行企業社會責任的能力和電力行業的清潔生產水平，成為中國電力行業中享有盛譽的環保節能和可再生能源領域的先進企業。

2018年2月5日，國電集團與國家能源投資集團有限責任公司(「**國家能源集團**」，其前身為神華集團有限責任公司)正式簽署《合併協議》，開始實施聯合重組。聯合重組完成後，國家能源集團將成為全球第一大的煤炭集團、全球第一大的火力發電集團、全球第一大的可再生能源發電集團以及全球第一大的煤制油化工集團。公司將始終以客戶為中心，把為客戶創造價值、實現共贏發展作為根本，服務國家能源集團主業，支撐國家能源集團發展。在新時代起航的新征程中有新作為，勇攀全球能源科技最高峰。



## CHAIRMAN'S STATEMENT (CONTINUED) 董事長致辭(續)



Going forward, the Company will continue to use the platform and resources provided by the controlling shareholder China Energy for further development, to become a globally recognised supplier of products and services in environmental protection and energy conservation solutions and renewable energy equipment and solutions. The Company will strive to become the world leading brand of high-tech industry, and become a global leader in providing integrated clean technology solutions, and return to shareholders and the society with outstanding business performance!

Finally, on behalf of the Board of Directors, I would hereby like to extend our sincere gratitude to all the shareholders, clients and business partners for their trust and support, and to all the management and employees for their efforts and contributions.

**Mr. CHEN Dongqing**  
*Chairman of the Board of Directors*

展望未來，本公司將繼續利用其控股股東國家能源集團所提供的平台和資源，進一步發展壯大，成為全球公認的環保與節能解決方案及可再生能源設備與解決方案領域的產品和服務提供商。本公司將力爭打造成世界領先的特色高科技產業品牌，成為提供綜合清潔技術解決方案的全球領導者，並以優異的經營業績回報股東，回報社會！

最後，我謹代表董事會，在此衷心感謝全體股東、客戶、業務合作夥伴的信任和支持，同時也感謝管理層及員工的努力和貢獻。

**陳冬青先生**  
*董事長*

# PRESIDENT'S STATEMENT

## 總經理致辭



### Dear Shareholders:

In 2017, the Group insisted on the transformation development strategy, carefully implemented the work arrangements of the Board of Directors, firmly adhered to the overall work principle of "progress and quality in stability", conscientiously studied and implemented the spirit of 19th CPC National Congress and the spirit of the National State-owned Enterprises' Party

Construction Conference, adhered to the guidance of Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era, and maintained a high degree of consistency with the CPC Central Committee led by Comrade Xi Jinping in terms of ideology, politics and actions. The Group made every effort to and improve quality and efficiency, unwaveringly deepen the reform, push forward the production and management of the Company in a down-to-earth manner, and realize the steady and good development of the enterprise. The Group realized an operating income of RMB11,704.6 million, and the profit attributable to equity shareholders of the Company is RMB43.7 million for the year.

This year, the work safety of the Company stays in a good situation; the business environment has been fully improved; the structural adjustment took an important step towards; the market competitiveness has been enhanced continually; the technological innovation leads the development of the enterprises; the system reform has further implemented; and the anti-corruption work of the Party has achieved remarkable results. For example: Hami Dananhu project constructed by Longyuan Engineering won the golden prize of National Quality Engineering Award; De Aar wind turbine project in South Africa constructed by United Power passed the grid verification of Europe, which is the world's leading standard; the pitch products of Huadian Tianren passed the GL certification and the EU CE latest directive certification, means the safety performance keeps in line with EU regulations and standard.

### 尊敬的股東：

2017年，本集團堅持轉型發展戰略，認真執行董事會工作部署，牢牢把握「穩中求進，穩中求優」的工作總基調，認真學習貫徹黨的十九大精神和全國國企黨建會議精神，堅持以習近平新時代中國特色社會主義思想為指導，堅決在思想上、政治上及行動上同以習近平同志為核心的黨中央保持高度一致。全力以赴打好瘦身健體和提質增效攻堅戰，堅持不懈的深化改革，紮實推進公司各項生產經營工作，實現了企業的平穩向好發展。全年實現營業收入11,704.6百萬元，權益股東應佔利潤43.7百萬元。

本年度，本公司安全生產保持良好局面，經營環境得到全面改善，結構調整邁出重要步伐，市場競爭能力持續提升，科技創新引領企業發展，體制機制改革深入實施，黨建黨廉工作取得顯著成效。例如：龍源工程承建的國電哈密大南湖項目獲評為國家優質工程金質獎；聯合動力南非德阿項目風電機組一次性通過了全球領先的歐洲並網標準驗證，華電天仁變漿產品通過GL認證和歐盟CE最新指令認證，安全性能符合歐盟法規和標準。





## PRESIDENT'S STATEMENT (CONTINUED) 總經理致辭(續)

In addition, the Company's achievement in the scientific and technological innovation has been fruitful this year. The technology achievements "the Load Coupling Mechanism and Control Key Technology and Application of Wind Turbine based on Flexible Multi-body Dynamics" of United Power obtained 12 important awards, such as the first prize of China Electric Power Science and Technology Award, the first prize of Science and Technology Progress Award of Hebei province, etc.; Longyuan Environmental academician workstation was established with the approval of Beijing Municipal Association, undertook the special research subject of the cause of haze funded by the National Prime Minister fund, high specific surface area small pore catalyst has been developed and was on trial; the "Research and Practice of Zero Emission System for Full Membrane Desulphurisation Wastewater Treatment" of Lucency won the second prize of 2017 Electric Power Construction Science and Technology Advancement Award.

Under the macro background of the reorganization and establishment of China Energy, the Company will embrace a great period of historical opportunity. The new ideological banner provides us with the fundamental guideline to seize opportunities. The new development position provides us with the solid foundation to seize opportunities. The new goal provides us with the high vision to seize opportunities.

Going forward, the Company will plan as a whole to enhance the work as work safety, quality and efficiency enhancement, technology innovation, risk prevention and marketization reform, focus on promoting quality reform, efficiency reform and power reform, to obtain quality from management enhancement, to obtain efficiency from reformation, to obtain impetus from innovation, make every effort to serve China Energy, promote the process of marketization, forge the Group into a world-class high-tech industry brand.

**Mr. ZHANG Jun**  
President

此外，本年度公司科技創新成果豐碩。聯合動力「基於柔性多體動力學的風電機組載荷耦合機理及控制關鍵技術與應用」等科技成果獲得中國電力科學技術一等獎、河北省科技進步一等獎等12項重要獎勵；龍源環保院士專家工作站獲得北京市科協批准成立，承擔了國家總理基金的霧霾成因研究專項子課題，高比表面積小孔催化劑開發完成並開始試用；朗新明「全膜法脫硫廢水處理零排放系統研究與實踐」獲得2017年度電力建設科技進步二等獎等。

在當前國家能源集團重組成立的大背景下，本公司正處於一個大有可為的歷史機遇期。新的思想旗幟，讓我們有了把握機遇的根本指針。新的發展方位，讓我們有了把握機遇的深厚底氣。新的奮鬥目標，讓我們有了把握機遇的高遠視野。

展望未來，本公司將統籌推進公司安全生產、提質增效、科技創新、防範風險和市場化改革等工作，重點在推動質量變革、效率變革和動力變革上下功夫，向管理要質量，向改革要效率，向創新要動力，全力服務國家能源集團，積極推進市場化進程，努力將本集團打造成世界一流的特色高科技產業品牌。

**張軍先生**  
總經理



# MANAGEMENT'S DISCUSSION AND ANALYSIS

## 管理層討論與分析

*Certain statistical data and other information relating to the PRC and the industries in which the Group operates contained in the section entitled “Key Industry Developments” in this Annual Report, have been derived from various publicly available official publications. The Company believes that these sources are appropriate and has taken reasonable care in extracting and reproducing such information. The Company has no reason to believe that such information is false or misleading or that any material fact has been omitted that would render such information false or misleading. The information has not been independently verified by the Company or relevant parties. The Company makes no representation as to the accuracy of the information contained in such sources, and which may not be consistent with other information compiled within or outside the PRC. Accordingly, such information may not be accurate and should not be unduly relied upon for your investment in the Company.*

*This Annual Report contains certain forward-looking statements and information relating to the Group or the Company that are based on the management’s belief and assumptions. The words “anticipate”, “believe”, “expect”, “going forward” and similar expressions, as they relate to the Company, the Group or the Company’s management, are intended to identify forward-looking statements. Such statements reflect the current views of the Company’s management with respect to future events and are subject to certain risks, uncertainties and assumptions. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, the Group’s business, financial condition and results of operations may be adversely affected and may vary materially from those described herein as anticipated, believed or expected.*

本年報中如「主要行業發展」部分所載有關中國及本集團所經營行業的若干統計數據及其他信息乃摘自不同的官方公開刊物。本公司相信有關數據源為恰當的數據源並已合理謹慎地摘錄及轉載有關資料。本公司並無理由相信有關資料屬虛假或誤導性的資料或遺漏任何事實致使該等資料屬虛假或誤導性的資料。有關資料並未經本公司或相關各方獨立核實。本公司並沒有就該等來源所載資料的準確性發表任何聲明，而該等數據可能與中國境內外編製的其他數據不一致。因此，該等數據未必準確，閣下投資於本公司時不應過度依賴上述資料。

本年報載有基於本公司管理層的信念及假設作出有關本集團或本公司的若干前瞻性陳述及資料。「預計」、「相信」、「預期」、「今後」及類似表述，當用於本公司、本集團或本公司的管理層時，即指前瞻性陳述。此類陳述反映出本公司管理層對未來事件的當前觀點，並受若干風險、不明朗因素及假設的影響。倘一項或多項該等風險或不明朗因素成真，或倘相關假設被證實為不正確，本集團的業務、財務狀況及經營業績或會受不利影響且可能與本公告所述的預計、相信或預期者大不相同。

## 2017 INDUSTRY AND BUSINESS OVERVIEW

### Key Industry Developments

In 2017, the PRC government continued to introduce new regulations and policy initiatives applicable to the PRC power and power-related industries, amid risks and challenges under the new normal of economic growth. The main purpose of these is to adjust the energy structure, enhance the proportion of clean energy supply, and control the scale of coal power production capacity. It is expected that during the "13th Five-Year Plan" period, the ultralow emission renovation capacity of coal power of 420 million kw and energy conservation renovation capacity of 340 million kw would help drive sustainable development of the environmental protection and energy-saving solutions businesses of the Group. Meanwhile, China has clarified the tax expenses deduction policies for renewable energy companies. By 2020, the domestic installed wind power capacity will reach up to 286 million kw, and the peaking capability construction will be strengthened in favour of sustainable development of the renewable energy device manufacturing business of the Group.

For the purpose of this report, the "PRC" refers to the People's Republic of China, excluding Taiwan, the Macau Special Administration Region of the PRC and the Hong Kong Special Administration Region of the PRC.

Set forth below are the key regulations and policy issued by the PRC government and other relevant regulatory authorities that are expected to have a material effect on the Group's businesses, operations and financial conditions:

1. In December 2016, the State Council of the PRC (the "State Council") issued the Comprehensive Work Plan for Energy Conservation and Emission Reduction in the "13th Five-Year Plan" period (the "Work Plan"), clearly setting forth the main targets and key tasks for the work of energy conservation and emission reduction in the "13th Five-Year Plan" Period and generally deploying the national work of energy conservation and emission reduction.

Main target: By 2020, the national total energy national consumption per RMB10,000 of GDP will be 15% lower than that of 2015, and the total energy consumption will be controlled within 5BT standard coal. The national total COD, ammonia nitrogen, sulphur dioxide and nitrogen oxide emissions will be controlled within 20.01 Mton, 2.07 Mton, 15.80 Mton and 15.74 Mton, respectively, representing a decrease of 10%, 10%, 15% and 15% respectively from 2015. The total amount of volatile organic compounds emitted in China will be decreased by more than 10% from that of 2015.

## 2017年行業和業務回顧

### 主要行業發展

2017年，面對經濟發展新常態下的風險挑戰，中國政府陸續出台了適用於中國電力及與電力相關行業的新法規及政策措施。該等措施主要目的是調整能源結構，提高清潔能源供應比例，控制煤電規模。預計「十三五」期間要完成煤電機組超低排放改造4.2億千瓦，節能改造3.4億千瓦，將帶動本集團環保及節能解決方案業務的持續發展。同時，國家明確了可再生能源企業的稅費減免政策。到2020年，我國風電裝機將達28,600萬千瓦，並加強電力系統的調峰能力建設，有利於本集團可再生能源設備製造產業的持續發展。

就本報告而言，「中國」是指中華人民共和國，這裏不包括台灣、中國澳門特別行政區及中國香港特別行政區。

以下為中國政府及其他有關監管機構頒佈的主要法規及政策措施，預期該等法規及政策措施將對本集團的業務、經營和財務狀況產生實質影響：

1. 2016年12月，中華人民共和國國務院（「國務院」）印發《「十三五」節能減排綜合工作方案》（《「工作方案」》），明確了「十三五」節能減排工作的主要目標和重點任務，對全國節能減排工作進行全面部署。

主要目標：到2020年，全國萬元國內生產總值能耗比2015年下降15%，能源消費總量控制在50億噸標準煤以內。全國化學需氧量、氨氮、二氧化硫、氮氧化物排放總量分別控制在2,001萬噸、207萬噸、1,580萬噸、1,574萬噸以內，比2015年分別下降10%、10%、15%和15%。全國揮發性有機物排放總量比2015年下降10%以上。

The Work Plan proposes the promotion and development of key energy-saving projects. Among them, the comprehensive upgrade of coal-fired boiler energy saving systems, the upgrade of motor system energy efficiency, utilization of waste heat for people, green lighting, energy-saving technology and equipment industrialization demonstration, energy system optimization, coal consumption reduction and replacement, comprehensive energy efficiency upgrade of key energy consumers and promotion of contract-based energy management, urbanization energy conservation upgrading and renovation, natural gas distributed energy demonstration, etc.; the Work Plan also proposes the promotion of the comprehensive cascade utilization of energy and the achievement of energy conservation up to approximately 300Mton standard coal; by 2020, the production value of the energy conservation service industry should be double of that of 2015.

The Work Plan proposes the key construction projects for the emission reduction of main air pollutants, the implementation of the ultralow emission and energy conservation renovation projects for coal-fired power plants, the completion of the task to realize the ultralow emission for accumulatively 580 million kw units by 2020 and the elimination of 20 million kw units with inferior production capacity and not conforming to the applicable compulsory standards within the specified time. The Work Plan also proposes the implementation of pollution control projects for emission fully in line with standards in key industries such as electricity, steel, cement, petrochemical, flat glass, nonferrous metal, etc..

The Work Plan mentions the pursuit of a contract-based energy management method. Implementing contract based energy management and promotion projects and encouraging energy conservation service companies to innovate their service modes can to provide users with "one-stop" integrated contract-based energy management services covering energy conservation consultation, diagnosis, design, financing, renovation and hosting, etc. The Work Plan abolishes the energy conservation service company review and filing system. Any local government or authority shall not restrict energy conservation service companies in starting their business on the pretext that they do not have the corresponding qualifications. The Work Plan implements the taxation preference policy for energy conservation service companies and encourages the government at all levels to enhance the support to contract-based energy management. The Work Plan supports energy conservation service companies to issue green bonds. The Work Plan encourages energy conservation service companies to innovate the integration of investment, bond and financing so as to promote the development of contract-based energy management.

The issuance of the Work Plan will foster the sustainable and healthy development of the Group's environmental protection and energy-saving solutions business.

《工作方案》中提出，推進發展節能重點工程。組織實施燃煤鍋爐節能環保綜合提升、電機系統能效提升、餘熱暖民、綠色照明、節能技術裝備產業化示範、能量系統優化、煤炭消費減量替代、重點用能單位綜合能效提升、合同能源管理推進、城鎮化節能升級改造、天然氣分佈式能源示範工程等節能重點工程，推進能源綜合梯級利用，形成約3億噸標準煤的節能能力，到2020年節能服務產業產值比2015年翻一番。

《工作方案》中提出，發展主要大氣污染物重點減排工程。實施燃煤電廠超低排放和節能改造工程，到2020年累計完成5.8億千瓦機組超低排放改造任務，限期淘汰2,000萬千瓦落後產能和不符合相關強制性標準要求的機組。實施電力、鋼鐵、水泥、石化、平板玻璃及有色等重點行業全面達標排放治理工程。

《工作方案》中提出，推行合同能源管理模式。實施合同能源管理推廣工程，鼓勵節能服務公司創新服務模式，為用戶提供節能諮詢、診斷、設計、融資、改造、託管等「一站式」合同能源管理綜合服務。取消節能服務公司審核備案制度，任何地方和單位不得以是否具備節能服務公司審核備案資格限制企業開展業務。落實節能服務公司稅收優惠政策，鼓勵各級政府加大對合同能源管理的支持力度。支持節能服務公司發行綠色債券。創新投債貸結合促進合同能源管理業務發展。

《工作方案》的頒佈有利於本集團環保及節能解決方案業務的持續健康發展。



2. In December 2016, the National Development and Reform Commission (“**NDRC**”) and the National Energy Administration (“**NEA**”) formally issued the “13th Five-Year Plan” for Energy Development (the “**Plan**”).

The layout of wind power and PV projects shifts the focus to Central and East China. As the market space in the main energy consumption areas under the new normal shrinks, the Plan has adjusted the energy development layout for the “13th Five-Year Plan” period, mainly shifting the focus of wind power and PV projects onto Central and East China. For the newly installed wind power units, Central and East China will account for approximately 58% of the units; for the newly installed solar power units, Central and East China will account for approximately 56% of the units. The mode of distributed development and local consumption will be dominant.

In respect of problems such as low comprehensive efficiency of energy supply, the Plan has presented four measures: firstly, to eliminate the excess capacity on the basis of safety, environmental protection, technology, quality standards, etc. Secondly, to enhance the peaking capability of electric power system, strengthen the construction of branch conduits and promote the construction of urban distribution power grids. Thirdly, to push forward the ultralow emission and energy-saving renovation for coal-fired power plants. In the “13th Five-Year Plan” period, China will complete the ultralow emission renovation of 420 million kw coal-fired units and energy conservation renovation of 340 million kw. Fourthly, to control the scale of the new coal-fired power plants put into operation and the installed capacity of coal-fired units within 1.1 billion kw.

The Group has maturely mastered related advanced technologies, such as secondary reheating distributed control system (“**DCS**”) of supercritical unit and ultralow emissions and energy conservation renovation, and enhanced capabilities in wind turbine generator manufacturing segment and wind power economy operations. The issuance of the Plan makes the Group more confident to face the challenges of the energy industry in future.

2. 2016年12月，國家發展改革委(「**發改委**」)、國家能源局(「**國家能源局**」)正式發佈《能源發展「十三五」規劃》(「**《規劃》**」)。

風電、光伏佈局向中東部轉移。因新常態下主要能源消費地區市場空間萎縮，《規劃》調整了「十三五」時期能源發展佈局，主要將風電、光伏佈局向中東部轉移，新增風電裝機中，中東部地區約佔58%，新增太陽能裝機中，中東部地區約佔56%，並以分佈式開發、就地消納為主。

對於能源供應綜合效率不高等問題，《規劃》提出四個方面的對策，一是根據安全、環保、技術、質量等標準淘汰過剩產能。二是增強電力系統調峰能力，加強支線管網建設，推進城鎮配電網建設。三是推進煤電超低排放和節能改造。「十三五」期間要完成煤電機組超低排放改造4.2億千瓦，節能改造3.4億千瓦。四是控制新投產煤電規模，煤電裝機控制在11億千瓦以內。

本集團已成熟掌握超超臨界機組二次再熱DCS控制系統、超低排放和節能改造等相關先進技術，並在風機製造板塊和風電經濟運營方面得到顯著提升。《規劃》的發佈使本集團更加有信心面對未來能源產業的變革。



3. In February 2017, the NEA issued the Guiding Opinions for Energy Work 2017 (the “Opinions I”).

Opinions I proposes that the energy consumption per unit of GDP be decreased by more than 5.0% from that of 2016. The average power supply coal consumption of coal-fired power plants will be 314g standard coal per kwh, 1g less than that of 2016. The completed scale of energy conservation renovation will be 60 million kw.

**Stable Development of Wind Power.** To optimize wind power construction and development layout and shift the focus of new projects onto Central China, East China and South China. To strictly control the new power grid synchronization projects in the regions with severe phenomenon of abandoning wind power, issue the pre-warning information for the wind power industry in 2017 and suspend the new wind power projects of any province with the rate of abandoning wind power which is more than 20%. To promote orderly planning and construction of such wind power bases as those around Beijing-Tianjin-Hebei region, at the valleys of the Jinsha River and the Yalong River, etc. To speed up the development and utilization of offshore wind power. To stably push forward the construction of wind power projects, commence 25 million kw construction and add installed capacity of 20 million kw during the year. The requirement of the stable promotion of the preliminary work for wind power projects in some regions with project scale of 25 million kw.

**Coal-fired Power Ultralow Emission and Energy Conservation Renovation.** To further push forward renovation and plans to complete 80 million kw ultralow emission renovation and 60 million kw energy conservation renovation by the end of 2017.

The issuance of Opinions I is conducive to the continuous development of the renewable energy equipment manufacturing business and energy conservation business of the Group.

4. In February 2017, the NEA published the Notice on the Issue of the Wind Power Investment Monitoring and Pre-warning Results 2017. Six provinces and autonomous regions including Inner Mongolia, Heilongjiang, Jilin, Ningxia, Gansu and Xinjiang (comprising Corps), are classified as red pre-warning areas, which shall attach importance to the settlement of the problem of abandoning wind power. In such areas, new wind power projects in 2017 must not be approved and shall be suspended the permission for the new wind power grid synchronization projects and new power generation projects.

3. 2017年2月，國家能源局發佈2017年能源工作指導意見(《意見一》)。

《意見一》提出，單位國內生產總值能耗同比2016年下降5.0%以上。燃煤電廠平均供電煤耗314克標準煤/千瓦時，比2016年減少1克。完成煤電節能改造規模6,000萬千瓦。

穩步發展風電。優化風電建設開發佈局，新增規模重心主要向中東部和南方地區傾斜。嚴格控制棄風限電嚴重地區新增併網項目，發佈2017年度風電行業預警信息，對棄風率超過20%的省份暫停安排新建風電規模。有序推動京津冀週邊、金沙江河谷和雅魯江河谷風光水互補等風電基地規劃建設工作。加快海上風電開發利用。穩步推進風電項目建設，年內計劃安排新開工建設規模2,500萬千瓦，新增裝機規模2,000萬千瓦。紮實推進部分地區風電項目前期工作，項目規模2,500萬千瓦。

煤電超低排放和節能改造。繼續深入推進改造工作，2017年內計劃完成超低排放改造規模8,000萬千瓦，完成節能改造規模6,000萬千瓦。

《意見一》的發佈有利於本集團可再生能源設備製造產業和節能業務的持續發展。

4. 2017年2月，國家能源局印發《關於發佈2017年度風電投資監測預警結果的通知》，內蒙古、黑龍江、吉林、寧夏、甘肅及新疆(含兵團)等六省區被劃定為紅色預警區域，這些省區需着力解決棄風問題，2017年不得核准建設新的風電項目，風電項目新增併網和新的發電業務許可被停止。

5. In July 2017, 16 departments and commissions including the NDRC and NEA jointly issued the Guiding Opinions on Pushing Forward the Supply Side Structural Reform and Preventing and Eliminating the Risk of Coal Power Overcapacity (“**Opinions II**”).

Opinions II proposes that by 2020, the national scale of coal power installations should be kept within 1.1 billion kw. In addition, Opinions II also clarifies that, in the “13th Five-Year Plan” period, China will cease and delay the construction of 150 million kw coal power capacity, eliminate above 20 million kw backward power capacity, realize the ultralow emission renovation of 420 million kw, the energy-saving renovation of 340 million kw and flexible renovation of 220 million kw. The coal unit with the proper conditions will complete the ultralow emission renovation, and the average coal consumption for coal power supply shall be reduced to 310g/kwh.

Opinions II also proposes the following six major tasks. Firstly, to strictly eliminate the backward power capacity; namely, the coal power generator units (including the captive coal-fired generator units) below 300 thousand kw which are not in line with the relevant requirements will be eliminated and closed down according to laws and regulations. Secondly, to clear and rectify the illegal projects; namely, the illegal coal power projects that are constructed without approval, approved illegally, approved with illegal procedures or commenced without completion of all required procedures will all closed down and discontinued and will be disposed of on basis of the actual conditions and according to the applicable laws and regulations. Thirdly, to strictly control the scale of the new power capacity, namely, any province whose warning level is red or orange shall not expand its planned coal power construction scale; by the end of 2020, the operation scale of the outbound power transmission projects included in the planning base will in principle be reduced by half. Fourthly, to speed up generator unit upgrade and renovation; namely, East China, Central China and West China will respectively complete the renovation of the generator units with proper conditions by 2017, 2018 and 2020. Fifthly, to standardize the management of the captive power plant; namely, the coal-fired captive power plants will be counted into the national electric power construction planning; the regions including Beijing-Tianjin-Hebei region, the Yangtze River Delta and the Pearl River Delta will forbid the construction of new coal-fired captive power plants; and any coal-fired captive power plant should strictly comply with the national energy conservation and environmental protection emission standards and perform the corresponding peaking obligation. Sixthly, to ensure the safe supply of electric power.

5. 2017年7月，發改委、國家能源局等16部委聯合印發《關於推進供給側結構性改革，防範化解煤電產能過剩風險的意見》(「《意見二》」)。

《意見二》提出，到2020年，全國煤電裝機規模控制在11億千瓦以內。同時還明確了「十三五」期間，全國停建和緩建煤電產能1.5億千瓦，淘汰落後產能0.2億千瓦以上，實施煤電超低排放改造4.2億千瓦、節能改造3.4億千瓦、靈活性改造2.2億千瓦。具備條件的煤電機組完成超低排放改造，煤電平均供電煤耗降至310克／千瓦時。

《意見二》提出：一是從嚴淘汰落後產能。依法依規淘汰關停不符合要求的30萬千瓦以下煤電機組(含燃煤自備機組)；二是清理整頓違規項目。對未核先建、違規核准、批建不符、開工手續不全等違規煤電項目一律停工、停產，並根據實際情況依法依規分類處理；三是嚴控新增產能規模。預警等級為紅色和橙色的省份，不再新增煤電規劃建設規模；2020年底前已納入規劃基地外送項目的投產規模原則上減半；四是加快機組升級改造。東部、中部、西部分別在2017年、2018年、2020年底前完成具備條件機組的改造工作；五是規範自備電廠管理。燃煤自備電廠要納入國家電力建設規劃；京津冀、長三角、珠三角等區域禁止新建燃煤自備電廠；燃煤自備電廠要嚴格執行國家節能和環保排放標準，履行相應的調峰義務；六是保障電力安全供應等6項主要任務。



Opinions II further proposes to actively push forward reorganization and integration. It is proposed to encourage and promote the reorganization and integration of large power generation groups, encourage the upstream and downstream enterprises of coal, electricity and other industrial chains to give play to the synergy of the industrial chains, strengthen the middle-term and long-term cooperation between coal enterprises and electric power enterprises, and stabilize the coal market prices; it is also proposed to support leading enterprises and main enterprises to integrate coal and power resources through asset reorganization, equity cooperation, asset exchange, free transfer and so on.

The new energy conservation and environmental protection industry has become the development direction of China, which will rely on the stock market including the old power plant's ultralow and super ultralow emission technology renovation to release the development space. The issuance of Opinions II is conducive to the optimization and development of the Group in the areas of environmental protection and energy conservation solutions, and creates new opportunities for its sustainable and stable development.

6. NEA pushes forward the implementation of the "Plan" in renewable energy development.

On 28 July, NEA issued the Guiding Opinions on the Implementation of the "13th Five-Year Plan" in Renewable Energy Development (the "**Opinions III**"), which further explains the development path of renewable energy in "13th Five-Year Plan" period, and points out that strengthening the leading role of development planning, strengthening the implementation of renewable energy consumption conditions, mitigating subsidy pressure, etc., will become the key for development at the next stage.

《意見二》還提出積極推進重組整合。鼓勵和推動大型發電集團實施重組整合，鼓勵煤炭、電力等產業鏈上下游企業發揮產業鏈協同效應，加強煤炭、電力企業中長期合作，穩定煤炭市場價格；支持優勢企業和主業企業通過資產重組、股權合作、資產置換、無償劃轉等方式，整合煤電資源。

新型節能和環保產業成為國家的發展方向，依託老電廠技術改造的超低和超超低排放技術等存量市場釋放發展空間，《意見二》的發佈有利於本集團在環保和節能解決方案業務的優化發展，為其持續穩定發展創造新的機遇。

6. 國家能源局推進可再生能源發展規劃實施。

7月28日，國家能源局印發《關於可再生能源發展「十三五」規劃實施的指導意見》（《**意見三**》），對「十三五」可再生能源發展路徑進行進一步說明，加強發展規劃引領、加強可再生能源消納條件落實、緩解補貼壓力等問題成為下一階段發展關鍵。

Opinions III, the Proposal for the New Construction Scale of Wind Power 2017–2020 (the “**Proposal for Wind Power**”) and other documents were also issued at the same time. The Proposal for Wind Power clarifies that the planned total newly added wind power installed capacity of the 25 provinces (autonomous regions and municipalities) including Beijing, Tianjin and Hebei in 2017–2020 will be 110,410,000 kw and the planned wind power to be synchronized with power grid by 2020 will be 126,000,000 kw. According to the data published by the NEA, by 2016, the total wind power installed capacity of China was 149,000,000 kw; by 2020, the total wind power installed capacity of China will reach 286,000,000 kw, far above the 210,000,000 kw development target established in the “13th Five-Year Plan for Wind Power Development” issued in November 2016. It should be noted that, due to being included in the wind power abandoning red warning areas, the development plan for the seven regions, i.e. Jilin, Heilongjiang, Gansu, Ningxia, Inner Mongolia, Xinjiang Autonomous Region and the Xinjiang Production and Construction Corps, will be issued separately after the wind power abandoning condition alleviates. The actual scale of wind power development in the “13th Five-Year Plan” period is likely to exceed the original target by 150%.

The issuance of Opinions III is conducive to the sustainable development of the renewable energy equipment manufacturing business of the Group and is expected to be conducive to the wind turbine generator manufacturing business.

7. In August 2017, the General Division of the NEA issued the Letter Seeking for Comments on the “Notice on Mitigating the Tax Burden of the Enterprises Involved in Renewable Energy” (the “**Notice**”).

Based on the fact that the tax burden of renewable energy enterprises is generally heavy, the Notice clarifies the tax reduction policy for renewable energy enterprises.

For wind power enterprises, the Notice stipulates: for wind power projects, in the case where wind farm entry and overhaul roads occupy farmlands, the farmland occupation tax shall be reduced to RMB2.00/m<sup>2</sup> by reference to general highways. The Notice requires that local authorities strengthen service capacity construction, shorten the time to process large parts transportation licence, and standardize the transportation management of the super-large parts of wind turbine generators. The Notice encourages the role of insurance in risk transfer, strengthens the construction of the quality insurance system for wind power equipment, and promotes the replacement of wind power quality security deposits by wind power equipment quality insurance.

《意見三》印發同時，《2017–2020年風電新增建設規模方案》(「《風電方案》」)等文件也同步下發。《風電方案》明確，2017–2020年，北京、天津、河北等25個省(區、市)計劃累計新增風電裝機11,041萬千瓦，2020年規劃併網12,600萬千瓦。據國家能源局公佈的數據，截至2016年，我國風電累計裝機14,900萬千瓦，到2020年，我國風電裝機將達28,600萬千瓦，遠超2016年11月發佈的《風電發展「十三五」規劃》中設定的21,000萬千瓦發展目標。需要注意的是，由於被列入棄風紅色預警區域，吉林、黑龍江、甘肅、寧夏、內蒙古、新疆自治區、新疆兵團7個地區的發展規劃在棄風情況緩解後才會另行下達。風電「十三五」時期實際發展規模極有可能超過原目標的150%。

《意見三》的發佈有利於本集團可再生能源設備製造產業的持續發展，預計將對風機製造產業形成利好。

7. 2017年8月，國家能源局綜合司下發了關於徵求對《關於減輕可再生能源領域涉企稅費負擔的通知》(「《通知》」)意見的函。

《通知》根據可再生能源企業稅費負擔普遍較重的實際情況，明確了可再生能源企業的稅費減免政策。

針對風電企業，《通知》規定：對風電項目，風電場進場及檢修道路佔用耕地，參照公路線路，減按每平方米2元的稅額徵收耕地佔用稅。要求地方強化服務能力建設，縮短大件運輸許可辦理時間，規範風機超大部分件運輸管理。鼓勵發揮保險的風險轉移作用，加強風電設備質量保險體系建設，推動以風電設備質量保險替代風電設備質量保證金。





All localities shall encourage banks and other financial institutions to lower their lending rates, encourage banks and other financial institutions to support the enterprises investing in renewable energy projects with the interest rate equal to the benchmark interest rate minus around 10%, extend the loan term for renewable energy power generation projects as appropriate and allow them to repay loans flexibly. The government at all levels shall guide renewable energy enterprises to issue corporate bonds, the governments at all levels may cooperate with social entities to establish renewable energy industry funds, and provide policy support to renewable energy related funds initiated by social entities.

The issuance of the Notice is conducive to the sustainable development of the wind power equipment manufacturing business of the Group.

8. In October 2017, the Ministry of Industry and Information Technology issued the Guidance on Speeding up the Promotion of the Development of the Environmental Protection Equipment Manufacturing Industry (the “**Opinions IV**”).

Opinions IV puts forward the working target of the environmental protection equipment manufacturing industry: by 2020, the innovation ability of the environmental protection equipment manufacturing industry will be obviously improved, and new breakthroughs will be made in key core technologies and the innovation-driven industry development system will be basically built; the effective supply capacity of advanced environmental protection technology and equipment will be improved significantly, and the market share will greatly increase; the major technical equipment will basically reach an internationally advanced level, and international competitiveness will be significantly enhanced; the industrial structure will be continuously optimized, a number of demonstrative and leading enterprises in each key area will be supported, ten leading enterprises in the scale of RMB10 billion will be cultivated, thousands of “dedicated, proficient, special and new” small- and-medium-sized enterprises will be created and a number of industrial clusters of strong driving effect and distinctive characteristics will be formed; and the environmental protection equipment manufacturing output value will reach RMB1 trillion.

各地要鼓勵銀行等金融機構降低貸款利率，對達到優質信貸等級的可再生能源項目投資企業，鼓勵按基準利率下浮10%左右的利率予以支持，並可對可再生能源發電項目適當延長貸款期限並給予還貸靈活性。各級政府應指導可再生能源企業發行企業債券，鼓勵各級政府與社會主體合作建立可再生能源產業基金，對社會主體發起的可再生能源相關基金予以政策支持。

《通知》的發佈有利於本集團風機設備製造產業的持續發展。

8. 2017年10月，工業和信息化部發佈《關於加快推進環保裝備製造業發展的指導意見》（〔**意見四**〕）。

《意見四》提出了環保裝備製造業的工作目標：到2020年，環保裝備製造業創新能力明顯提升，關鍵核心技術取得新突破，創新驅動的行業發展體系基本建成。先進環保技術裝備的有效供給能力顯著提高，市場佔有率大幅提升。主要技術裝備基本達到國際先進水平，國際競爭力明顯增強。產業結構不斷優化，在每個重點領域支持一批具有示範引領作用的規範企業，培育十家百億規模龍頭企業，打造千家「專精特新」中小企業，形成若干個帶動效應強、特色鮮明的產業集群。環保裝備製造業產值達到10,000億元。

Opinions IV has defined the main tasks of the future development of the environmental protection equipment manufacturing industry, as follows: firstly, to strengthen the collaborative and innovative development of technology R&D; secondly, to push forward the transformation and development of intelligent and green production; thirdly, to promote product diversification and brand-based development; fourthly, to guide differentiated, convergent and integrated industry development; fifthly, to encourage the internationalized and open development of the enterprises.

Opinions IV has also identified the nine key areas for the development of the environmental protection equipment manufacturing industry, including air pollution prevention equipment, water pollution prevention equipment, soil pollution repair equipment, solid waste disposal and treatment equipment, comprehensive resource utilization equipment, environmental pollution emergency treatment equipment, environmental monitoring instruments and meters, special materials and chemicals for environmental pollution prevention, noise and vibration control equipment.

In the field of air pollution prevention equipment, it is necessary to promote ultralow emissions from coal-fired power stations, the collaborative control of multiple pollutants in the non-power industries such as iron and steel, coking, non-ferrous metals, construction material, chemical, etc., and the application demonstration of the technical equipment for the control of volatile organic compounds in key fields.

The issue of Opinions IV may bring new development opportunities to the environmental protection business of the Group.

《意見四》確定了未來環保裝備製造業發展的主要任務：一是強化技術研發協同化創新發展；二是推進生產智能化綠色化轉型發展；三是推動產品多元化品牌化提升發展；四是引導行業差異化集聚化融合發展；五是鼓勵企業國際化開放發展。

《意見四》還明確了環保裝備製造業發展的九大重點領域。他們分別是：大氣污染防治裝備、水污染防治裝備、土壤污染修復裝備、固體廢物處理處置裝備、資源綜合利用裝備、環境污染應急處理裝備、環境監測專用儀器儀錶、環境污染防治專用材料與藥劑及噪聲與振動控制裝備。

在大氣污染防治裝備領域，要推進燃煤電站超低排放、鋼鐵、焦化、有色、建材及化工等非電行業多污染物協同控制和重點領域揮發性有機物控制技術裝備的應用示範。

《意見四》的出台可能為本集團環保產業帶來新的發展契機。



9. In December 2017, the 2018 National Energy Work Conference (the “**Conference**”) was held in Beijing.

The Conference stresses that the energy work of 2018 will concentrate on the following seven aspects. Firstly, to focus on outstanding contradictions and problems, and effectively improve the security of oil and gas and the safety of energy production. Secondly, to focus on green development, make efforts to solve the clean energy consumption problem, make efforts to promote the strategic projects of energy structure adjustment, plan as a whole to promote clean and efficient use of coal, and vigorously promote the development level of clean energy. Thirdly, to focus on coal and coal-fired power, further promote supply side structural reform, resolutely get the decisive victory in the task of coal de-capacity, and greatly resolve the overcapacity in coal-fired power. Fourthly, to focus on the core technology breakthroughs and achievement transformations and applications, vigorously promote the major technology and equipment breakthroughs, perfect working mechanism, foster and strengthen the new impetus in science and technology innovation. Fifthly, to focus on key fields and key links, further deepen the electric power system reform, the oil and natural gas system reform, the “release, management and compliance” reform, further strengthen energy regulation and governance according to law. Sixthly, focus on key fields and important areas, and promote the clean heat supply in North China, enhance the quality upgrade of refined oil, vigorously promote the preference and benefit of energy for the people. Seventhly, to focus on major strategic cooperation, further improve the general arrangement and planning, create cooperation highlights, improve the discourse advantage, fully enhance international cooperation in energy.

The Conference deployed the energy task in 2018, which has pointed out the direction for the Group to optimize its assets and accelerate its transformation.

### Key Business Development

In 2017, the global economy as a whole showed a solid recovery, while the national economy of China improved with a stable growth and the economic structure was optimized continuously. High-quality development has become the main theme of economic and social development.

9. 2017年12月，2018年全國能源工作會議（「**會議**」）在北京召開。

會議強調，2018年能源工作將主抓以下七個方面：一要聚焦突出矛盾和問題，切實提升油氣保障和能源安全生產水平；二要聚焦綠色發展，着力解決清潔能源消納問題，着力推進能源結構調整戰略工程，統籌推進煤炭清潔高效利用，大力推進能源清潔發展水平；三要聚焦煤炭和煤電，深入推進供給側結構性改革，堅決奪取煤炭去產能任務決定性勝利，大力化解煤電過剩產能；四要聚焦核心技術攻關和成果轉化應用，大力推進重大技術裝備攻關，健全完善工作機制，培育壯大科技創新新動能；五要聚焦重點領域和關鍵環節，進一步深化電力體制改革、油氣體制改革、「放管服」改革，進一步強化能源監管和依法治理；六要聚焦重點地區和重要領域，紮實推進北方地區清潔取暖，加大成品油質量升級工作力度，大力提升能源惠民利民力度；七要聚焦重大戰略合作，進一步做好統籌謀劃，打造合作亮點，提升話語優勢，全方位提升能源國際合作水平。

會議部署了2018年能源工作任務，為本集團優化資產，加速轉型指明了工作方向。

### 主要業務發展

2017年，世界經濟整體呈現穩健復甦的態勢，中國國民經濟穩中向好，經濟結構持續優化，高質量發展成為經濟社會發展的主旋律。

Taking safety production as its foundation, improvement in quality and efficiency as the core, becoming leaner and healthier as its emphasis, market development as a key task, and technological and institutional innovation as a driving force, the Group integrated resources and enhanced collaboration to push the Company to realize a healthy and sustainable development. The Company made solid and efficient improvement in quality and service by developing craftsmanship spirit and strengthening quality control to push its quality management system to be in line with the international first-class standard. The Company vigorously implemented the "going out" strategy and promoted collaborative marketing pilots. Meanwhile, it also actively participated in large-scale exhibitions and summits both at home and abroad such as the Central Enterprise Innovation Achievement Exhibition (中央企業創新成就展) and Smart Enterprise Innovation Forum (智慧企業創新論壇) to promote its technologies and products, improving the reputation and influence of the brands of the Company.

#### Environmental Protection Business

As at 31 December 2017, the Group's desulphurisation and denitrification projects under construction were set out as follows:

本集團以安全生產為基礎，以提質增效為核心，以瘦身健體為重點，以市場開發為關鍵，以科技和體制創新為驅動，整合資源，強化協同，推動公司實現健康可持續發展。紮實開展質量和服務有效提升工作，弘揚工匠精神，強化質量管控，推行質量管理體系與國際一流標準接軌；大力實施走出去戰略，試點推進協同營銷；積極參加中央企業創新成就展、智慧企業創新論壇等海內外大型展會和峰會，推廣公司的技術和產品，提升了品牌的美譽度和影響力。

#### 環保業務

於2017年12月31日，本集團在建脫硫脫硝項目情況如下表所示：

Projects	項目	Number 數量	Installed capacity (MW) 裝機容量 (兆瓦)
Desulphurisation projects under construction	在建脫硫項目	25	22,620
Desulphurisation renovation projects	脫硫改造項目	14	11,390
Desulphurisation renovation EPC projects	脫硫改造EPC項目	13	9,390
Desulphurisation concession reconstruction projects	脫硫改造特許項目	1	2,000
Newly built desulphurisation projects	脫硫新建項目	11	11,230
Newly built desulphurisation EPC projects	脫硫新建EPC項目	10	9,910
Newly built desulphurisation concession projects	脫硫新建特許項目	1	1,320
Denitrification projects under construction	在建脫硝項目	18	13,585
Denitrification renovation projects	脫硝改造項目	11	5,485
Denitrification renovation EPC projects	脫硝改造EPC項目	11	5,485
Newly built denitrification projects	脫硝新建項目	7	8,100
Newly built denitrification EPC projects	脫硝新建EPC項目	6	6,780
Newly built denitrification concession projects	脫硝新建特許項目	1	1,320

Currently, the models of concession operations of the Group's environmental protection business are categorized into three types: general concession model, the operation and maintenance model of general contracting for tariff (generating income from tariff for desulphurisation, and assuming the responsibility for the supply of materials and the disposal of desulphurisation by-products in addition to general operation and maintenance) and the operation and maintenance model (generating income from general operations and maintenance). As of 31 December 2017, the desulphurisation concession operation of the Group had an aggregate installed capacity of 15,890 MW, the operating units of denitrification concession operation had an aggregate installed capacity of 11,100 MW; the desulphurisation generating units under the operation and maintenance model of general contracting for tariff had an installed capacity of 2,020 MW; the desulphurisation generating units under the operation and maintenance model had an installed capacity of 17,430 MW.

In addition, in the environmental protection business, technical solutions were upgraded continuously and non-electric sectors were actively developed. The Company successfully won the biddings of a denitrification system optimization project for ten boilers of Qilu Petrochemical (齊魯石化) and an integrated transformation project for desulphurisation, denitrification and dust removal of Yanshan Petrochemical (燕山石化).

As of 31 December 2017, the annual production capacity of denitrification catalysts, the key material for denitrification service of the Group was 24,000 m<sup>3</sup>.

As of 31 December 2017, the Group processed approximately 189,430,000 tons of sewage (including reclaimed water) and reduced the cumulative chemical oxygen demand ("COD") emissions by approximately 70,600 tons.

### **Energy Conservation Solutions Business**

In the aspect of energy conservation business, among all projects under the general contracting business of power station construction, the Guodian Hami Dananhu Project undertaken by Congyuan Engineering was awarded the National Quality Project Gold Award (國家優質工程金質獎) in 2017, and succeeded in obtaining the closure and coal transportation system renovation projects of four coal yards including Tongling Coal Yard with "coal closure renovation" project as its new business direction. The Company made a successful exploration in new business growth and actively expanded its business in new energy fields such as wind power and PV by using the available resources and its own strengths. The Company won the bidding of the EPC general contracting engineering of Susong Xinzhoudu Wind Power Project. The project is the first wind power general contracting project that the Company has obtained, marking that the Company has taken a solid step in the new energy business market.

目前，本集團環保業務特許經營模式分為三種：一般特許經營模式、電價總包運維模式(獲得脫硫電價收益，除負責一般性運維外還負責物耗供應及脫硫副產物的處置)、運維模式(獲得一般性運維收益)。截至2017年12月31日止，本集團脫硫特許經營在運機組裝機總容量為15,890兆瓦，脫硫特許經營在運機組裝機總容量為11,100兆瓦；電價總包運維模式脫硫機組為2,020兆瓦；運維模式脫硫機組為17,430兆瓦。

此外，環保板塊不斷優化技術方案，積極開拓非電行業市場。成功中標齊魯石化10台鍋爐脫硝系統優化項目及燕山石化脫硫脫硝除塵一體化改造項目。

截至2017年12月31日止，本集團脫硝服務的關鍵材料—脫硝催化劑的年產能為24,000立方米。

截至2017年12月31日止，本集團本年度污水處理(含中水)量約為18,943萬噸，本年度化學需氧量(COD)累計減排量約為7.06萬噸。

### **節能解決方案業務**

在節能業務方面，電站建設總承包業務中，2017年，龍源工程承建的國電哈密大南湖項目獲評為國家優質工程金質獎；以「煤場封閉改造」項目為新的業務方向，成功拿下銅陵等4個煤場封閉及輸煤系統改造項目；成功探索新的業務增長點，利用現有資源和自身優勢，積極拓展風電、光伏等新能源領域的業務。成功中標宿松新洲渡風電項目EPC總承包工程，此項目為公司取得的第一個風電總承包項目，在新能源業務市場邁出堅實的一步。



The Group adjusted the organizational organs of Guodian Longyuan Energy Saving Technology Co., Ltd. (“**Longyuan Energy Saving**”) in the first half of 2017 and made use of the comprehensive energy-saving retrofitting integrated technology to provide customers with system integration solutions with reliable quality and better technology. The Longyuan Energy Saving has a total contract value of RMB950 million for the whole year, the Group has been closely monitoring the power plants in Shizuishan and Changzhou and other energy-saving renovation projects. The Company signed the first comprehensive energy conservation reform project—Shizuishan Comprehensive Energy Conservation Reform Project. The project is expected to complete the reform of six boiler units in 2018, which will significantly reduce the average coal consumption of the entire plant, improve the combustion efficiency and reduce the emission of nitrogen oxides. The economic and social benefits of the project are significant. In terms of steam turbine through-flow renovation, the Company signed six steam turbines through-flow renovation projects in Shizuishan city (in the Ningxia Hui Autonomous Region), the technical solutions of which are provided by GE (Shanghai) Electric Power Technology Co., Ltd. (通用電氣(上海)電力技術有限公司) (“**GE**”), and the first unit has been successfully connected to the grid. The Company won the bidding of Changzhou Steam Turbine Through-flow Renovation Project by cooperating with GE, marking a successful cooperation in the through-flow renovation of large-scale steam turbines.

The market expansion of plasma ignition business has been greatly affected by the decline of the new infrastructure coal market with the saturation of the market for low-nitrogen combustion retrofitting.

#### **Wind Power Products and Services Business**

The Group's Wind Turbine Generator (“**WTG**”) sales volumes by product type for the years ended 31 December 2016 and 2017 are set forth below:

	Completed Sales 完成銷售 (units) (套)		Orders 訂單 (units) (套)		
	2017	2016	As at 31 December 2017 2017年12月31日止		
			Confirmed Orders 已確認訂單	Successful Tenders 成功競標	
1.5MW	1.5兆瓦	119	427	597	1
2.0MW	2.0兆瓦	507	725	981	73
3.0MW	3.0兆瓦	7	—	16	—
<b>Total</b>	<b>總數</b>	<b>633</b>	1,152	<b>1,594</b>	<b>74</b>

本集團2017年上半年調整國電龍源節能技術有限公司(「**龍源節能**」)組織機構，利用綜合節能改造一體化技術，為客戶提供質量可靠、技術更優的系統集成方案。全年龍源節能共簽訂合同人民幣9.5億元；積極跟蹤石嘴山、常州電廠等節能改造項目，簽訂了首個綜合節能改造項目—石嘴山綜合節能改造項目，預計2018年6台機組將全部實施完成。改造後的機組將大幅降低全廠平均供電煤耗，提高燃燒效率，減少氮氧化物的排放，項目經濟效益和社會效益顯著；汽輪機通流改造業務方面，由通用電氣(上海)電力技術有限公司(「**通用電氣**」)提供技術方案，簽訂了石嘴山6台汽輪機通流改造項目，首台已順利併網；與通用電氣合作中標常州汽輪機通流改造項目，標誌着與其在大型汽輪機通流改造的成功合作。

等離子點火業務市場開拓受新增基建煤電市場下滑影響較大，低氮燃燒改造業務市場趨於飽和。

#### **風電產品及服務業務**

本集團於截至2016年及2017年12月31日止年度按產品類型分的風機銷量如下：



## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)



In 2017, the newly installed capacity in the wind power industry dropped significantly year-on-year, and the number of tenders in the domestic wind power market recorded a year-on-year decrease of 27%. Through strengthening management and deepening reforms, the Group has overcome such a severe situation and participated in project competition with market-oriented price, quality and service. The Group achieved a market presence of 94.73% within the system, reaching a historical high. In 2017, the demand in the wind power industry changed rapidly. The Group made clear the key direction of innovative research and development with low wind speed, high power and high tower tube, and achieved the greatest scientific and technological achievement in the history with a total of 12 internal and external awards, including the First Prize for the China Power Science and Technology Award, the First Prize for Science and Technology Award of Hebei Province, the First Prize for China Machinery Industry Science and Technology Award, the First Prize for China Marine Science and Technology Award (中國海洋科學技術一等獎), the First Prize for the China Power Technological Innovation Award and other important awards. In 2017, the Group's WTG unit of South Africa De Aar project passed the European On-grid Connection Standard Certification, the most leading certification system in the world. The variable pitch product has passed the GL certification and the EU CE latest directive certification, and its safety performance complies with EU regulations and standards.

#### To proactively expand the domestic market in adversity

In 2017, the completed investment in the national thermal power supply infrastructure continued its downward trend. The Group proactively expanded the domestic market in adversity and achieved satisfactory results. New energy groups, paper manufacturing groups and local energy groups became new key customers of the Group. In 2017, the environmental protection segment continued to consolidate its market share in the petrochemical system, obtaining new orders amounting to RMB116 million in aggregate. The Group also explored the flue gas treatment business in the paper manufacturing industry, obtaining orders amounting to RMB23.20 million. The water treatment business obtained the first wastewater zero discharge project outside the system with a contract amount of RMB41.5 million. In the wind generator sector, major customers were explored outside the system, obtaining orders amounting to RMB370 million. Meanwhile, as to institutional mechanisms, the Group has explored the establishment of a joint market development and results-sharing mechanism, so that with upstream and downstream coordination and regional interaction, the Group can collaborate effectively to carry out marketing efforts. The Group carried out the pilot program of collaborative marketing in Northwest China and Southern China and signed six projects outside the system with a total contract amount of nearly RMB30 million throughout the year under the implementation of collaborative marketing. After the reorganization and establishment of China Energy, the Group will embrace unprecedented market opportunities in the system. The Group will gradually expand its market to coal, coal chemical industry, transportation, port and other fields based on the existing electric power conservation and environmental protection industry.

2017年，風電行業新增裝機同比大幅下降，國內風電市場招標量同比下降27%。本集團通過強化管理，深化改革，克服了嚴峻形勢，用市場化價格、質量和服務參與系統內項目競爭，系統內市場佔有率94.73%，達歷史最高水平。2017年，風電行業需求變化加快，本集團明確了以低風速、大功率和高塔筒為創新研發的重點方向，取得了歷史以來最優科技成果，榮獲內外部獎共12項：包括中國電力科學技術一等獎、河北省科學技術一等獎、中國機械工業科學技術一等獎、中國海洋科學技術一等獎、中國電力創新一等獎等重要獎項。2017年，本集團南非德阿項目風電機組一次性通過了全球領先的歐洲並網標準驗證；變漿產品通過GL認證和歐盟CE最新指令認證，安全性能符合歐盟法規和標準。

#### 在逆境中積極拓展國內市場

2017年，全國火電電源基本建設投資完成額繼續呈下行態勢，本集團在逆境中積極拓展國內市場，取得一定成效。新能源集團、造紙集團、地方能源集團成為本集團重點新開拓客戶。2017年，環保板塊繼續鞏固在石化系統的市場份額，累計新獲取訂單116百萬元。新開拓造紙行業煙氣治理業務，獲得23.20百萬元訂單。水處理業務獲取系統外首個廢水零排放項目，合同金額41.5百萬元。風機板塊系統外新拓大型客戶，獲取訂單3.7億元。同時本集團在體制機制方面，探索建立市場合作開發和成果共享機制，上下聯動、左右互動，有效協同開展市場營銷工作。開展西北、華南協同營銷試點工作，全年因協同營銷簽約系統外項目6個，簽約總額近30百萬元。國家能源集團正式重組成立後，本集團在系統內將迎來前所未有的市場機遇，本集團將立足現有電力節能環保行業，逐步擴展至煤炭、煤化工、運輸、港口等領域。

### To proactively expand overseas markets

In 2017, the Group formed a clearer picture of the strategic thinking on its international business. It steadily promoted its international business by conducting a unified layout in key countries. In 2017, the total value of new contracts entered into by the Group amounted to approximately RMB59.17 million. These new contracts mainly included:

- Guodian Zhishen, a subsidiary, obtained the distributed control system (“DCS”) project of two generating units with capacity of 1,000MW in Indonesia, which was not only the first DCS order of the Group for overseas large-scale coal-fired power generation units, but also a significant breakthrough for “China Brain” in overseas markets.
- Longyuan Environmental, a subsidiary, obtained a 2x100MW seawater desulphurisation EP project in Indonesia.
- An entrance road construction project of a 2x660MW coal-fired power plant in Bangladesh.

### Committed to technological innovation and research and development

The Group dedicated itself to technological innovation and research and development to enhance core competitiveness. The dedication of the Group led to a number of technological achievements in the following respects:

- The Group has set up a complete scientific and technological R&D system. It now has four national scientific R&D platforms including the “national key laboratory for wind power equipment and system technology”, 12 provincial scientific R&D platforms, one postdoctoral scientific research center, and one workstation of academics and experts, with incomparable advantages in this regard domestically.
- The Group actively participated in formulating and modifying national and industry standards. By the end of December 2017, it has led the preparation of one national standard and revision of one national standard, and participated in preparing and revising 34 national standards; led the preparation of 14 industry standards, and participated in preparing 24 industry standards; and led the preparation of one local standard. In 2017, the Group obtained a total of 264 intellectual property rights, including one international invention patent and 65 invention patents.

### 積極拓展海外市場

2017年，本集團國際業務戰略思路逐漸清晰，在重點國家進行統一佈局，穩步推進國際業務。2017年新簽合同總額約人民幣59.17百萬元，主要是：

- 附屬公司國電智深獲得的印尼某兩台百萬千瓦機組分散控制系統(「DCS」)項目，這既是本集團海外首個大型煤電機組DCS訂單，同時也實現了「中國腦」在海外的重大突破。
- 附屬公司龍源環保獲得的印尼某2x100MW海水脫硫EP項目。
- 孟加拉某(2x660MW)燃煤電站進場道路施工項目。

### 致力於技術革新和研發

本集團為增強核心競爭力，在科技創新及研發方面努力不懈。本集團的努力體現在多個業務領域的技術成果中：

- 搭建完備的科技研發體系。本集團目前擁有「風電設備及系統技術國家重點實驗室」等4個國家級科研平台、12個省級科研平台，1個博士後科研工作站，1個院士專家工作站，科研實力居國內行業領軍地位。
- 積極參與國家及行業標準的制訂和修訂工作。截至2017年12月底，共計主持編製國家標準1項、主持修訂國家標準1項、參與編製及修訂國家標準34項。主持編製行業標準14項、參與編製行業標準24項、主持編製地方標準1項。2017年度本集團共計獲得知識產權264項，其中國際發明專利1項、發明專利65項。

- Longyuan Environmental undertook the Research Project on Preparation Technology of High Specific Surface Denitrification Catalyst and overcame key technological difficulties such as the extrusion, drying, roasting, etc. of 50/60-hole catalyst, and participated in the implementation of the Project of Complete Process Evaluation on Pollutant Control in Coal-fired Power Plants, being the sub-topic of the Project of Cause and Treatment of Heavy Air Pollution under the special research on the cause of fog and haze proposed by the Premier; the wind power generating units independently researched and developed and manufactured by United Power passed the European On-grid Connection Standard Certification, the most leading certification system in the world, and 163 wind power generating units of Longyuan in South Africa successfully completed on-grid connection with the national grid in South Africa; the prototype of intelligent wind power integrated control system for 1.5MW units jointly developed by United Power, Guodian Zhishen, Huadian Tianren and the Guodian Longyuan Electrical Co., Ltd. ("**Longyuan Electrical**") successfully completed on-grid connection on 6 May 2017, which was of significance to improve the autonomy of electric control system of wind power generating units and promote the development of intelligent wind power plants; the Longyuan Technology AGC Optimization Control System was successfully applied to power generating unit No. 1 of Bulian Power Plant, creating good return for the owner; as recognised by the Chinese Society of Power Engineering, the research and development achievement of Guodian Zhishen Intelligent City Heat Network Control System met a leading level in the domestic market, the DCS system was successfully applied to the 1MW Trough Solar Thermal Power 863 Demonstration Project undertaken by the Institute of Electrical Engineering of the Chinese Academy of Sciences for the first time; the "3MW High-pressure Pitch System" of Huadian Tianren and the 2.0MW Standard and Plateau Converter Model of Electric Company have successively passed the assessment and certification of Beijing Jianheng Certification Center for reaching industry leading level.
- 龍源環保承擔的「高比表面脫硝催化劑的製備工藝研究」項目完成了50/60孔催化劑的擠出、乾燥、焙燒等關鍵工藝的技術攻關，參與總理提出的霧霾成因研究專項《大氣重污染成因與治理攻關項目》子課題「燃煤電站污染物治理成套工藝評估」項目實施；聯合動力自主研發製造的風電機組通過了全球領先的歐洲併網標準驗證，龍源南非德阿項目163台風電機組成功併入南非國家電網；由聯合動力、國電智深、華電天仁、國電龍源電氣有限公司（「**龍源電氣**」）共同研發的「1.5MW機組智能風電一體化控制系統樣機」於2017年5月6日順利併網，該項目對提高風電機組電控系統自主化、推動智慧風電場發展具有重要意義；龍源技術AGC優化控制系統在布連電廠1號機組成功應用，為業主創造良好效益；國電智深智能城市熱網控制系統研發成果經中國動力工程學會鑒定具有國內領先水平，DCS系統首次成功應用於中科院電工所承擔的1MW槽式光熱發電863項目示範工程；華電天仁「3MW高壓變漿系統」、電氣公司2.0MW標準型和高原型變流器機型先後通過北京鑒衡認證中心評估認證，達到行業領先水平。

As a result of the remarkable achievements in technological innovation and R&D, in 2017, the Group has established a strong foothold in this field while winning numerous awards:

- The "Key Technology and Application of Load Coupling Mechanism and Control of Wind Turbine Based on Flexible Multibody Dynamics" project of United Power won the China Power Science and Technology Advancement Award (First Prize).
- 聯合動力《基於柔性多體動力學的風電機組載荷耦合機理及控制關鍵技術與應用》項目獲得中國電力科學技術一等獎。

本集團在技術創新和研發方面取得的卓越成就使本集團在2017年獲得多項行業肯定及獲頒多項獎項，取得多個新亮點：

- The “Treatment Technology and Integrated Application of Fine Particles and Precursors of Coal” of Nanjing Longyuan Environmental Co., Ltd. (“**Nanjing Longyuan**”) was awarded the Environmental Protection Scientific and Technological Award (First Prize).
- The “Research and Application of Key Technology of Series Bearings for Wind Power Equipment under 3.6MW” project of United Power was awarded the China Machinery Industry Science and Technology Award (First Prize).
- The “Independent Innovation and Industrialization of Key Technology for Wind Turbine Load Shedding and Efficiency Enhancement” of United Power was awarded the Science and Technology Award of Hebei Province (First Prize).
- The “Research and Application of Key Technology for Wind Turbine Load Shedding” of United Power was awarded the China Power Innovation Award (First Prize).
- The “Power Generation Equipment of Efficient Horizontal Axis Ocean Current Power Generation Series and the ‘Hai Neng Hai Yong’ System” of United Power was awarded the Marine Science and Technology Award (First Prize).
- The “Efficient Wind Turbine for Class IV Wind Area” of United Power was awarded the Science and Technology Award of Hebei Province (Second Prize).
- The “Research and Application of Key Technology of Series Bearings for Wind Power Equipment above 2MW” of United Power was awarded the Science and Technology Advancement Award of Henan Province (Second Prize). The “Intelligent Operation and Maintenance and Performance Improvement and Optimization of Wind Turbines in Operation” of United Power and the “Research on Pitch Control System of Ultra Large Offshore Wind Turbines” of Huadian Tianren were awarded the China Power Innovation Award (Second Prize).
- The “Automatic Monitoring System for Key Parameters in Pneumatic Conveying of Coal-Fired Power Plants” of Huadian Tianren was awarded the Science and Technology Advancement Award of Tianjin (Second Prize).
- 南京龍源環保有限公司(「**南京龍源**」)《燃煤細顆粒物及其前體物治理技術與集成應用》獲得環境保護科學技術一等獎。
- 聯合動力《3.6MW以下風電裝備系列軸承關鍵技術研究與應用》項目獲得中國機械工業科學技術獎一等獎。
- 聯合動力《風電機組降載增效關鍵技術自主創新與產業化》獲得河北省科學技術一等獎。
- 聯合動力《風電機組降載關鍵技術研究及應用》獲得中國電力創新一等獎。
- 聯合動力《高效水平軸海流發電系列發電系列裝備與「海能海用」系統》獲得海洋科學技術一等獎。
- 聯合動力《適用於IV類風區的高效風力發電機組》獲得河北省科學技術二等獎。
- 聯合動力《2兆瓦以上風電裝備系列軸承關鍵技術研究與應用》獲得河南省科學技術進步二等獎。聯合動力《在運風電機組智能運維及性能提升優化改造》、華電天仁《超大型海上風電機組變漿控制系統研究》獲得中國電力創新二等獎。
- 華電天仁《燃煤電廠氣力輸送關鍵參數自動監測系統》獲得天津市科學技術進步二等獎。



## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

- The “Dual Circulation Limestone and Gypsum Wet Desulphurisation Technology” of Longyuan Environmental, the “Control System and Control Technology of 1,000MW Secondary Reheating Power Generation Units” of Guodian Zhishen, and the “Research and Practice of Zero Emission Systems for Full Membrane Desulphurisation Wastewater Treatment” of Beijing Lucency Environment and Technology Co., Ltd. (“**Lucency**”) were awarded the China Power Construction Science and Technology Advancement Award (Second Prize).
- The “Waste Heat Recovery of Power Plant Boiler Exhaust Gas and Efficiency Improving Technology for Desulphurisation and Water Saving” of Longyuan Technology was awarded the China Power Science and Technology Advancement Award (Third Prize).
- The “Practical Research of Large-Scale Energy Storage and Demonstration of Wind Farm for Energy Storage” and the “Research and Development of Air Flow Control Methods and Related Devices Based on Online Measurement of Pulverized Coal Flow Parameters” of Huadian Tianren were awarded the China Power Innovation Award (Third Prize).
- The “Complete Technology for Smoke Sulfur Recycling for Coal-Fired Power Plants Burning High-sulfur Coal” of Longyuan Environmental was awarded the Science and Technology Advancement Award of the China Petroleum and Chemical Industry Association (Third Prize).
- The “A Flue Gas Denitrification Method and Device with Rectifying Components” of Longyuan Environmental was awarded the China Patent Excellence Award.
- 龍源環保《雙循環石灰石膏濕法脫硫技術》、國電智深《百萬千瓦二次再熱機組控制系統及控制技術》、北京朗新明環保科技有限公司(「**朗新明**」)《全膜法脫硫廢水處理零排放系統研究與實踐》獲得中國電力建設科學技術進步二等獎。
- 龍源技術《電站鍋爐排煙餘熱回收及脫硫節水提效技術》項目獲得中國電力科學技術三等獎。
- 華電天仁《大型儲能實用化技術研究及儲能型風電場示範》、《基於煤粉流動參數在線測量的風粉流量控制方法及相關裝置研製》獲得中國電力創新三等獎。
- 龍源環保《燃高硫煤電廠煙氣硫資源化成套技術》獲得中國石油和化學工業聯合會科學技術進步三等獎。
- 龍源環保《一種具有整流元件的煙氣脫硝方法及其裝置》獲得中國專利優秀獎。

### ANALYSIS OF 2017 FINANCIAL RESULTS

Please read this section in conjunction with the consolidated financial statements of the Group for the year ended 31 December 2017.

#### Analysis on consolidated results

##### Revenue

Consolidated revenue of the Group in 2017 was approximately RMB11,704.6 million, representing a decrease of 27.2% as compared with approximately RMB16,088.4 million in 2016 (the consolidated revenue as disclosed in the 2016 annual report was RMB15,970.7 million, which was restated due to the acquisition of Beijing Guodian Lantian Energy Saving Science and Technology Development Co., Ltd. (“**Lantian Company**”) during the year). Revenues from environmental protection solutions, wind power products and services, and solar power products and services businesses (discontinued operation) decreased by approximately RMB1,293.7 million, RMB3,288.4 million and RMB193.8 million, respectively, representing decreases of 21.9%, 40.9% and 99.2%,

### 2017年財務業績分析

閱讀本節時請一併閱讀截至2017年12月31日止年度本集團的合併財務報表。

#### 合併業績分析

##### 收入

2017年，本集團合併收入約為人民幣11,704.6百萬元，與2016年約人民幣16,088.4百萬元(2016年年報中披露的合併收入約為人民幣15,970.7百萬元，因本年度收購北京國電藍天節能科技開發有限公司(「**藍天公司**」)而對該數據進行了重述)相比，下降27.2%。與2016年相比，環保解決方案、風電產品及服務和太陽能產品及服務業務

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

respectively as compared to 2016. The decrease in revenue generated from the environmental protection business was mainly due to a decline in revenue from the desulphurisation and denitrification EPC business. The decrease in revenue from the wind power products and services business was primarily attributable to a decline in the number of wind turbines of which the transfer testing was completed by the Group in 2017. The decrease in revenue from the solar power products and services business (discontinued operation) was primarily attributable to the discontinuation of such business. The Group entered into a share issuance and asset purchase agreement with Tianjin Zhonghuan Semiconductor Co., Ltd. ("Zhonghuan") on 1 July 2016 to transfer 90% equity of Guodian Solar Co., Ltd, a wholly-owned subsidiary of the Company. However, since Zhonghuan was listed on the SME Board of the Shenzhen Stock Exchange, the transaction is still subject to the approval of the CSRC. On 19 March 2018, Zhonghuan received relevant decision issued by CSRC, i.e. made the valid decision on disapproval of the Application for Purchase of Assets by Issuance of Shares for Raising Supporting Funds by Zhonghuan. On 23 March 2018, Zhonghuan convened a board meeting and decided to continue the promotion of such transaction. The Board of Directors is of the view that the transaction is highly probable to be completed and the Company will also cooperate with the Zhonghuan to amend and supplement the application materials for submission to the CSRC for review.

The following table sets out the Group's revenues by segment and as a percentage of the total revenue of the Group for the years ended 31 December 2017 and 2016, respectively:

(已終止經營)收入分別下降約人民幣1,293.7百萬元、人民幣3,288.4百萬元和人民幣193.8百萬元，下降比率分別為21.9%、40.9%和99.2%。環保業務產生的收入下降主要是由於脫硫脫硝EPC業務的收入減少，風電產品及服務業務產生的收入下降主要是由於2017年本集團完成調試測試的風機數量有所下降，太陽能產品及服務業務(已終止經營)產生的收入減少主要是由於終止經營所致。本集團於2016年7月1日與天津中環半導體股份有限公司(「中環股份」)簽訂發行股份購買資產協議，轉讓國電光伏有限公司(本公司全資子公司)90%股權，但由於中環股份於深圳證券交易所中小企業板上市，該交易尚需中國證監會批准。2018年3月19日，中環股份收到中國證監會下發的有關決定，即依法對中環股份發行股份購買資產並募集配套資金申請作出不予核准的決定。2018年3月23日，中環股份召開了董事會會議，決定繼續推進該交易。董事會認為該交易很可能完成，本公司亦將配合中環股份修改、補充申報材料，以提交中國證監會審核。

下表分別載列截至2017年及2016年12月31日止年度按分部劃分的本集團收入及其佔本集團總收入的百分比：

		2017		2016	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)	%	(人民幣百萬元)	%
				(Restated)	(重述)
<b>Environmental protection and energy conservation solutions:</b>	<b>環保及節能解決方案：</b>				
Environmental protection	環保	4,619.0	39.5	5,912.7	36.8
Energy conservation solutions	節能解決方案	1,953.0	16.7	1,518.2	9.4
<b>Renewable energy equipment manufacturing and services:</b>	<b>可再生能源設備製造及服務：</b>				
Wind power products and services	風電產品及服務	4,750.4	40.6	8,038.8	50.0
Solar power products and services (discontinued operation)	太陽能產品及服務 (已終止運營)	1.6	0.0	195.4	1.2
All others	所有其他	380.6	3.2	423.3	2.6
<b>Total</b>	<b>總計</b>	<b>11,704.6</b>	<b>100.0</b>	<b>16,088.4</b>	<b>100.0</b>

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)



#### Cost of sales

In 2017, the cost of sales for the Group amounted to approximately RMB8,856.9 million, representing a decrease of approximately RMB3,638.1 million or 29.1%, as compared to that in 2016 of approximately RMB12,495.0 million (restated). This decrease was primarily due to the consistent decrease in cost of sales and revenue for the Group's environmental protection solutions, wind power products and services, and solar power products and services (discontinued operation).

The following table sets out the Group's cost of sales by segment and as a percentage of total cost of sales of the Group for the years ended 31 December 2017 and 2016, respectively:

#### 銷售成本

2017年，本集團銷售成本約為人民幣8,856.9百萬元，與2016年的約人民幣12,495.0百萬元(重述)相比，減少約人民幣3,638.1百萬元或29.1%。減少的主要原因是本集團的環保解決方案、風電產品及服務和太陽能產品及服務業務(已終止經營)的銷售成本均隨着其收入減少而相應減少。

下表分別載列截至2017年及2016年12月31日止年度按分部劃分的本集團銷售成本及其佔本集團總銷售成本的百分比：

		2017		2016	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)	%	(人民幣百萬元)	%
				(Restated)	(重述)
<b>Environmental protection and energy conservation solutions:</b>	<b>環保及節能解決方案：</b>				
Environmental protection	環保	<b>3,623.0</b>	<b>40.9</b>	4,769.0	38.2
Energy conservation solutions	節能解決方案	<b>1,630.3</b>	<b>18.4</b>	1,242.3	9.9
<b>Renewable energy equipment manufacturing and services:</b>	<b>可再生能源設備製造及服務：</b>				
Wind power products and services	風電產品及服務	<b>3,365.1</b>	<b>38.0</b>	6,044.5	48.4
Solar power products and services (discontinued operation)	太陽能產品及服務(已終止運營)	<b>9.5</b>	<b>0.1</b>	190.2	1.5
All others	所有其他	<b>229.0</b>	<b>2.6</b>	249.0	2.0
<b>Total</b>	<b>總計</b>	<b>8,856.9</b>	<b>100.0</b>	12,495.0	100.0

#### Gross profit and gross profit margin

For the foregoing reasons, gross profit of the Group in 2017 amounted to approximately RMB2,847.7 million, representing a decrease of approximately RMB745.7 million, or 20.8%, as compared to that in 2016 of approximately RMB3,593.4 million (restated). The decrease in gross profit was mainly due to the decrease in gross profit for wind power products and services business. The average gross profit margin of the Group across all segments increased from 22.3% in 2016 to 24.3% in 2017, which was primarily attributable to the increase in gross profit margin for the wind power products and services business.

#### 毛利與毛利率

鑒於上述原因，本集團2017年的毛利約為人民幣2,847.7百萬元，與2016年的約人民幣3,593.4百萬元(重述)相比約降低約人民幣745.7百萬元或20.8%，毛利下降主要是由於風電產品及服務業務毛利減少所致。本集團所有分部平均毛利率從2016年的22.3%增加至2017年的24.3%，主要是因為風電產品及服務業務毛利率上升。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

The following table sets out the Group's gross profit/(loss) and gross profit margins by segment for the years ended 31 December 2017 and 2016, respectively:

下表分別載列截至2017年及2016年12月31日止年度按分部劃分的本集團毛利/(毛虧)和毛利率：

		2017		2016	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)	%	(人民幣百萬元)	%
		(Restated) (重述)			
<b>Environmental protection and energy conservation solutions:</b>	<b>環保及節能解決方案：</b>				
Environmental protection	環保	<b>996.0</b>	<b>21.6</b>	1,143.7	19.3
Energy conservation solutions	節能解決方案	<b>322.7</b>	<b>16.5</b>	275.9	18.2
<b>Renewable energy equipment manufacturing and services:</b>	<b>可再生能源設備製造及服務：</b>				
Wind power products and services	風電產品及服務	<b>1,385.3</b>	<b>29.2</b>	1,994.3	24.8
Solar power products and services (discontinued operation)	太陽能產品及服務 (已終止運營)	<b>(7.9)</b>	<b>N/A</b>	5.2	2.7
All others	所有其他	<b>151.6</b>	<b>39.8</b>	174.3	41.2
<b>Total</b>	<b>總計</b>	<b>2,847.7</b>	<b>24.3</b>	3,593.4	22.3

#### Other revenue

#### 其他收入

Other revenue of the Group's continuing operations increased by approximately RMB46.0 million, or 14.9%, from approximately RMB309.1 million (restated) for 2016 to approximately RMB355.1 million for 2017, which was primarily due to the increase in revenue such as refunds for liquidated damages and individual tax received by certain subsidiaries during the year. Other revenue of the Group's discontinued operation decreased by approximately RMB27.5 million, or 67.7%, from approximately RMB40.6 million for 2016 to approximately RMB13.1 million for 2017, which was primarily due to the decrease in government subsidies.

2017年，本集團持續經營業務的其他收入約人民幣355.1百萬元，較2016年的約人民幣309.1百萬元(重述)增加約人民幣46.0百萬元或14.9%，主要原因是本年部分子公司收到的違約金及個稅手續費返還等收入增加；本集團已終止經營業務的其他收入約人民幣13.1百萬元，較2016年的約人民幣40.6百萬元減少約人民幣27.5百萬元或67.7%，主要原因是政府補助金額減少。



### **Other net income**

Other net income from continuing operations of the Group for 2017 was approximately RMB560.2 million, while other net income for 2016 was approximately RMB328.8 million, which was primarily due to the net gain from disposal of subsidiaries of approximately RMB463.2 million. Other net income from the Group's discontinued operation was approximately RMB108.5 million for 2017, representing an increase of approximately RMB20.8 million or 23.7% as compared to other net income of approximately RMB87.7 million for 2016, which was primarily due to the increase in net gain from disposal of subsidiaries of approximately RMB98.3 million, and the decrease in gain on debt restructuring of approximately RMB64.9 million.

### **Selling and distribution expenses**

Selling and distribution expenses of the Group's continuing operations decreased by approximately RMB421.4 million or 30.8%, from approximately RMB1,366.9 million (restated) for 2016 to approximately RMB945.5 million for 2017, which was primarily due to the decrease in the after-sales service fee and warranty of wind turbines. The Group reversed selling and distribution expenses of the discontinued operation approximately RMB9.0 million, which was mainly due to the reversal of warranty.

### **Administrative expenses**

Administrative expenses of the Group's continuing operations decreased by approximately RMB120.7 million or 6.6%, from approximately RMB1,841.6 million (restated) for 2016 to approximately RMB1,720.9 million for 2017. Administrative expenses of the Group's discontinued operation increased by approximately RMB360.4 million or 328.5%, from approximately RMB109.7 million for 2016 to approximately RMB470.0 million for 2017. The increase in administrative expenses for the year was primarily due to the impairment loss and provision of outstanding litigation from discontinued operation in solar power products and services segment business during the year ended 31 December 2017.

### **Operating profit/(loss)**

As a result of the foregoing factors, the operating profit of the Group's continuing operations increased by approximately RMB86.9 million, or 8.5%, from approximately RMB1,017.6 million (restated) for 2016 to approximately RMB1,104.5 million for 2017. The operating profit of the Group's discontinued operation decreased by approximately RMB361.1 million or 2,635.8% from approximately RMB13.7 million for 2016 to a loss of approximately RMB347.4 million for 2017.

### **其他收益淨額**

2017年，本集團持續經營業務其他收益淨額約人民幣560.2百萬元，而2016年其他收益淨額約人民幣328.8百萬元，主要是由於處置子公司產生的淨收益約人民幣463.2百萬元；本集團已終止經營業務的其他收益淨額約人民幣108.5百萬元，較2016年其他收益淨額約人民幣87.7百萬元增加約人民幣20.8百萬元或23.7%，主要是由於其處置子公司產生淨收益較2016年增加約人民幣98.3百萬元，債務重組利得減少約人民幣64.9百萬元。

### **銷售及分銷開支**

2017年，本集團持續經營業務銷售及分銷開支約人民幣945.5百萬元，較2016年的約人民幣1,366.9百萬元(重述)減少約人民幣421.4百萬元或30.8%，主要是由於風機產品售後服務費及質保金的減少；本集團已終止經營業務轉回銷售及分銷開支約人民幣9.0百萬元，主要是質保金沖回。

### **行政開支**

2017年，本集團持續經營業務行政開支約人民幣1,720.9百萬元，較2016年的約人民幣1,841.6百萬元(重述)減少約人民幣120.7百萬元或6.6%；本集團已終止經營業務行政開支約人民幣470.0百萬元，較2016年的約人民幣109.7百萬元增加約人民幣360.4百萬元或328.5%。本年行政開支的增加主要是由於本集團於截至2017年12月31日止年度終止經營太陽能產品及服務分部業務而錄得減值虧損及未決訴訟撥備。

### **經營利潤/(虧損)**

鑒於上述原因，本集團持續經營業務的經營利潤從2016年的約人民幣1,017.6百萬元(重述)增加至2017年的約人民幣1,104.5百萬元，增加約人民幣86.9百萬元或8.5%；本集團已終止經營業務的經營利潤從2016年的約人民幣13.7百萬元減少至2017年的虧損約人民幣347.4百萬元，減少約人民幣361.1百萬元或2,635.8%。



**Finance costs**

Finance cost of the Group's continuing operations decreased by approximately RMB26.6 million, or 4.5%, from approximately RMB590.4 million for 2016 to approximately RMB563.8 million for 2017. Finance cost of the Group's discontinued operation decreased by approximately RMB140.9 million, from approximately RMB147.8 million for 2016 to approximately RMB6.9 million for 2017.

**Profit/(loss) before taxation**

As a result of foregoing factors, profit before taxation of the Group's continuing operations increased by approximately RMB98.1 million or 18.5%, from approximately RMB529.3 million (restated) for 2016 to approximately RMB627.4 million for 2017; loss before taxation of the Group's discontinued operation increased by approximately RMB220.2 million, or 164.2%, from approximately RMB134.1 million for 2016 to approximately RMB354.3 million for 2017.

**Income tax**

The Group's income tax charges for continuing operations increased by approximately RMB57.4 million, or 46.5%, from approximately RMB123.5 million (restated) for 2016 to approximately RMB180.9 million for 2017. The effective tax rate for the Group's continuing operations increased from 23.3% (restated) for 2016 to 28.8% for 2017, which was primarily due to the Group changed the reversal tax rate of deferred income tax assets of high-tech enterprises in 2016.

**Profit for the year**

As a result of the foregoing factors, the Group recorded profit for the year of approximately RMB90.8 million in 2017, and the profit of approximately RMB271.8 million (restated) in 2016.

**Profit/(loss) attributable to non-controlling interests**

As a result of the foregoing factors, non-controlling interests of the Group increased by approximately RMB96.0 million, from a loss attributable to non-controlling interests of approximately RMB48.9 million for 2016 to a profit attributable to non-controlling interests of approximately RMB47.1 million for 2017.

**Profit attributable to equity shareholders of the Company**

As a result of the foregoing factors, profit attributable to equity shareholders of the Company was approximately RMB43.7 million for 2017, representing a decrease of approximately RMB277.0 million, from a profit attributable to equity shareholders of the Company of approximately RMB320.7 million (restated) for 2016.

**財務成本**

2017年，本集團持續經營業務的財務成本約人民幣563.8百萬元，較2016年的約人民幣590.4百萬元減少約人民幣26.6百萬元或4.5%；2017年，本集團已終止經營業務的財務成本約人民幣6.9百萬元，較2016年約人民幣147.8百萬元減少約人民幣140.9百萬元。

**稅前利潤／(虧損)**

鑒於上述原因，本集團持續經營業務的稅前利潤從2016年的約人民幣529.3百萬元(重述)增加至2017年的約人民幣627.4百萬元，增加約人民幣98.1百萬元或18.5%；本集團已終止經營業務的稅前虧損從2016年的約人民幣134.1百萬元增加至2017年的約人民幣354.3百萬元，增加約人民幣220.2百萬元或164.2%。

**所得稅**

本集團持續經營業務的所得稅費用由2016年的約人民幣123.5百萬元(重述)增加至2017年的約人民幣180.9百萬元，增加約人民幣57.4百萬元或46.5%。本集團持續經營業務的實際稅率從2016年的23.3%(重述)增加至2017年的28.8%，主要是由於本集團於2016年更改了高新技術企業遞延所得稅資產的轉回稅率。

**本年利潤**

鑒於上述原因，2017年本集團錄得本年利潤為約人民幣90.8百萬元，而2016年錄得利潤約人民幣271.8百萬元(重述)。

**非控股權益應佔利潤／(虧損)**

鑒於上述原因，本集團非控股權益由2016年應佔虧損的約人民幣48.9百萬元增加至2017年的應佔利潤約人民幣47.1百萬元，增加約人民幣96.0百萬元。

**本公司權益股東應佔利潤**

鑒於上述原因，本公司2017年的權益股東應佔利潤為約人民幣43.7百萬元，和2016年的權益股東應佔利潤為約人民幣320.7百萬元(重述)相比減少約人民幣277.0百萬元。

# MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

## 管理層討論與分析(續)



### Analysis of Segment Results

### 分部業績分析

The following table sets out Group's segment revenues, segment gross profit and segment operating profit, each as a percentage of the total revenue, gross profit and operating profit of the Group for the years ended 31 December 2017 and 2016, respectively:

下表分別載列截至2017年及2016年12月31日止年度本集團的分部收入、分部毛利和分部經營利潤以及各自佔相關期間本集團收入、毛利和經營利潤的百分比：

		2017		2016	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)	%	(人民幣百萬元)	%
<b>Environmental protection and energy conservation solutions</b>	<b>環保及節能解決方案</b>				
Environmental protection:	環保：				
Revenue	收入	<b>4,619.0</b>	<b>39.5</b>	5,912.7	36.8
Gross profit	毛利	<b>996.0</b>	<b>35.0</b>	1,143.7	31.8
Operating profit	經營利潤	<b>615.9</b>	<b>81.3</b>	511.6	49.6
Energy conservation solutions:	節能解決方案：				
Revenue	收入	<b>1,953.0</b>	<b>16.7</b>	1,518.2	9.4
Gross profit	毛利	<b>322.7</b>	<b>11.3</b>	275.9	7.7
Operating profit	經營利潤	<b>181.6</b>	<b>24.0</b>	72.2	7.0
<b>Renewable energy equipment manufacturing and services</b>	<b>可再生能源設備製造及服務</b>				
Wind power products and services:	風電產品及服務：				
Revenue	收入	<b>4,750.4</b>	<b>40.6</b>	8,038.8	50.0
Gross profit	毛利	<b>1,385.3</b>	<b>48.6</b>	1,994.3	55.5
Operating profit	經營利潤	<b>245.0</b>	<b>32.4</b>	209.5	20.3
Solar power products and services (discontinued operation):	太陽能產品及服務 (已終止經營)：				
Revenue	收入	<b>1.6</b>	<b>0.0</b>	195.4	1.2
Gross (loss)/profit	(毛虧)/毛利	<b>(7.9)</b>	<b>(0.3)</b>	5.2	0.1
Operating (loss)/profit	經營(虧損)/利潤	<b>(347.4)</b>	<b>(45.9)</b>	13.7	1.3

## Environmental Protection and Energy Conservation Solutions

### Environmental protection

#### Revenue

Revenue from the environmental protection business decreased by approximately RMB1,293.7 million or 21.9%, from approximately RMB5,912.7 million for 2016 to approximately RMB4,619.0 million for 2017. The decrease was mainly attributable to the decrease in revenue from the desulphurisation, denitrification and water treatment businesses of the Group. Compared with 2016, revenue generated from the desulphurisation business decreased by approximately RMB540.9 million, or a decrease of approximately 17.1%; revenue generated from the denitrification business decreased by approximately RMB291.4 million, or a decrease of approximately 29.4%; and revenue generated from the water treatment business decreased by approximately RMB302.1 million, or a decrease of approximately 26.1%. The decrease of environmental protection business of the Group was mainly attributable to the decrease in the volume of desulphurisation and denitrification EPC business due to the suspension of the construction of new thermal power projects and the fact that the ultra-low emission transformation was under the final stage although the environmental protection segment will continue to be supported by national policies.

The following table sets out the revenues from each business line of the Group's environmental protection business, each as a percentage of the revenue from this business, for the years ended 31 December 2017 and 2016, respectively:

		2017		2016	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)	%	(人民幣百萬元)	%
Desulphurisation	脫硫	2,626.8	56.9	3,167.7	53.5
Denitrification	脫硝	700.6	15.2	992.0	16.8
Low NOx combustion equipment	低氮燃燒設備	83.3	1.8	157.6	2.7
Water treatment	水處理	856.3	18.5	1,158.4	19.6
Ash removal	除塵	352.0	7.6	437.0	7.4
<b>Total</b>	<b>總計</b>	<b>4,619.0</b>	<b>100.0</b>	<b>5,912.7</b>	<b>100.0</b>

## 環保及節能解決方案

### 環保

#### 收入

環保業務收入從2016年的約人民幣5,912.7百萬元減少至2017年的約人民幣4,619.0百萬元，減少約人民幣1,293.7百萬元或21.9%。主要是由於本集團脫硫、脫硝、水處理業務收入減少所致。與2016年相比，脫硫業務產生的收入減少約人民幣540.9百萬元，降幅約17.1%；脫硝業務產生的收入減少約人民幣291.4百萬元，降幅約29.4%；水處理業務產生的收入減少約人民幣302.1百萬元，降幅約26.1%。本集團環保業務的減少主要是環保板塊雖繼續得到國家政策支持，但是受新建火電項目建設停緩，以及超低排放改造進入尾聲的影響，脫硫脫硝EPC業務量有所下滑。

下表分別載列截至2017年及2016年12月31日止年度本集團環保業務中各業務線的收入，及其佔相關年度該業務收入的百分比：

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)



#### Cost of sales

Cost of sales for the environmental protection business of the Group decreased by approximately RMB1,146.0 million or 24.0%, from approximately RMB4,769.0 million for 2016 to approximately RMB3,623.0 million for 2017, which was consistent with the decrease in revenues from such business line.

#### Gross profit and gross profit margin

As a result of the foregoing reasons, gross profit attributable to the environmental protection business decreased by approximately RMB147.7 million, or 12.9%, from approximately RMB1,143.7 million for 2016 to approximately RMB996.0 million for 2017. Gross profit margin for this business increased from 19.3% to 21.6%, which was primarily attributable to the increases in gross profit margins for the desulphurisation, denitrification and water treatment businesses.

The following table sets out the changes in gross profit margins for the business lines comprising the Group's environmental protection business for the year ended 31 December 2017 as compared with the year ended 31 December 2016:

		2017 (%)	2016 (%)
Desulphurisation	脫硫	22.4	20.0
Denitrification	脫硝	33.4	29.5
Low NOx combustion equipment	低氮燃燒設備	2.5	11.9
Water treatment	水處理	19.7	15.7
Ash removal	除塵	12.6	18.6

#### Energy conservation solutions

##### Revenue

Revenue attributable to the energy conservation business increased by approximately RMB434.8 million or 28.6%, from approximately RMB1,518.2 million (restated) for 2016 to approximately RMB1,953.0 million for 2017. The increase was mainly due to the increase in revenue from the business line of energy management contract ("EMC") mainly as a result of the recognition of revenue from new and existing projects.

#### 銷售成本

本集團環保業務的銷售成本從2016年的約人民幣4,769.0百萬元降低至2017年的約人民幣3,623.0百萬元，減少約人民幣1,146.0百萬元或24.0%。這與該業務線的收入下降相一致。

#### 毛利及毛利率

鑒於上述原因，環保業務產生的毛利從2016年的約人民幣1,143.7百萬元減少至2017年的約人民幣996.0百萬元，減少約人民幣147.7百萬元或12.9%。此業務的毛利率從19.3%增至21.6%，主要是因為脫硫、脫硝和水處理業務的毛利率上升。

下表載列截至2017年12月31日止年度構成本集團環保業務的業務線毛利率與截至2016年12月31日止年度相比的變化：

#### 節能解決方案

##### 收入

節能業務產生的收入從2016年的約人民幣1,518.2百萬元(重述)增加至2017年的約人民幣1,953.0百萬元，增加約人民幣434.8百萬元或28.6%。收入的增加主要是因為合同能源管理業務線的收入增長，主要是存量及新增項目確認收入所致。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

The following table sets out the revenues from the business lines of the Group's energy conservation business, each as a percentage of revenue from this business, for the years ended 31 December 2017 and 2016, respectively.

下表分別載列截至2017年及2016年12月31日止年度本集團節能業務中各業務線的收入，及其佔相關年度該業務收入的百分比：

		2017		2016	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)	%	(Restated)	%
				(人民幣百萬元)	(重述)
Plasma-assisted coal ignition and combustion stabilization	等離子體點火及穩燃	250.9	12.8	239.0	15.8
Steam turbine flow passage retrofitting and maintenance	汽輪機通流改造及維修	28.8	1.5	39.6	2.6
Energy conservation equipment retrofitting	節能設備改造	80.9	4.1	66.7	4.4
EMC	合同能源管理	428.7	22.0	225.1	14.8
Waste heat recovery	餘熱回收	144.1	7.4	6.0	0.4
General contracting for power stations	電站建設總承包	1,019.6	52.2	941.8	62.0
Boiler comprehensive utilization and retrofitting	鍋爐綜合利用改造	-	-	66.7	4.4
<b>Total</b>	<b>總計</b>	<b>1,953.0</b>	<b>100.0</b>	1,518.2	100.0

#### Cost of sales

Cost of sales for the energy conservation solutions business increased by approximately RMB388.0 million or 31.2%, from approximately RMB1,242.3 million (restated) for 2016 to approximately RMB1,630.3 million for 2017, which was consistent with the increase in revenue from this business line.

#### 銷售成本

節能解決方案業務產生的銷售成本從2016年的約人民幣1,242.3百萬元(重述)增加至2017年的約人民幣約1,630.3百萬元，增長約人民幣388.0百萬元或31.2%，與該業務線的收入增加保持一致。

#### Gross profit and gross profit margins

As a result of the foregoing reasons, gross profit attributable to the energy conservation business increased by approximately RMB46.8 million or 17.0%, from approximately RMB275.9 million (restated) for 2016 to approximately RMB322.7 million for 2017. Gross profit margin for this business decreased from 18.2% to 16.5%, mainly attributable to the decreased gross profit margin of EMC and general contracting for power stations.

#### 毛利及毛利率

鑒於上述原因，節能業務產生的毛利從2016年的約人民幣275.9百萬元(重述)增加至2017年的約人民幣322.7百萬元，增長約人民幣46.8百萬元或17.0%。此業務的毛利率從18.2%減少至16.5%，主要是因為合同能源管理和電站建設總承包毛利率下降所致。





## Renewable energy equipment manufacturing and services

### Wind power products and services

#### Revenues

Revenue attributable to the wind power products and services business decreased by approximately RMB3,288.4 million, or 40.9%, from approximately RMB8,038.8 million for 2016 to approximately RMB4,750.4 million for 2017. The decrease in the revenue attributable to the wind power products and services business was mainly attributable to the further fragmentation of market share due to the overcapacity of wind power and the decrease in number of wind turbines of the Group which completed testing as a result of multiple factors such as price wars.

#### Cost of sales

Cost of sales attributable to the wind power products and services business decreased by approximately RMB2,679.4 million or 44.3%, from approximately RMB6,044.5 million for 2016 to approximately RMB3,365.1 million for 2017, which was consistent with the decrease in revenue from such business.

#### Gross profit and gross profit margin

As a result of the foregoing reasons, gross profit attributable to the wind power products and services business decreased by approximately RMB609.0 million or 30.5%, from approximately RMB1,994.3 million for 2016 to approximately RMB1,385.3 million for 2017. Gross profit margin for this business increased from 24.8% for 2016 to 29.2% for 2017, which was primarily due to the scientifically effective decrease in costs of WTG products during the course of improving quality and services.

### Solar power products and services (discontinued operation)

#### Revenues

Revenue attributable to the solar power products and services business decreased by approximately RMB193.8 million or 99.2%, from approximately RMB195.4 million in 2016 to approximately RMB1.6 million in 2017. The decrease was mainly due to the decrease in revenue from the Group's shutdown of production lines in the solar power products manufacturing business.

## 可再生能源設備製造及服務

### 風電產品及服務

#### 收入

風電產品及服務業務的收入從2016年的約人民幣8,038.8百萬元減少至2017年的約人民幣4,750.4百萬元，減少約人民幣3,288.4百萬元或40.9%。風電產品及服務業務收入下降，主要是隨着風電產能過剩，市場份額被進一步瓜分，受價格戰等多方面因素影響，本集團完成調試測試的風機數量有所下降。

#### 銷售成本

風電產品及服務業務的銷售成本從2016年的約人民幣6,044.5百萬元減少至2017年的約人民幣3,365.1百萬元，減少約人民幣2,679.4百萬元或44.3%，這與該等業務的收入下降趨勢一致。

#### 毛利與毛利率

鑒於上述原因，風電產品及服務業務的毛利從2016年的約人民幣1,994.3百萬元減少至2017年的約人民幣1,385.3百萬元，減少約人民幣609.0百萬元或30.5%。此業務的毛利率從2016年的24.8%增加至2017年的29.2%，主要原因是通過提升質量、提升服務，科學有效的壓降了風機產品的成本。

### 太陽能產品及服務(已終止經營)

#### 收入

太陽能產品及服務業務的收入從2016年的約人民幣195.4百萬元減少至2017年的約人民幣1.6百萬元，減少約人民幣193.8百萬元或99.2%。減少的主要原因是本集團太陽能產品製造業務產線停產導致收入下降。

*Cost of sales*

Cost of sales attributable to the solar power products and services business decreased by approximately RMB180.7 million or 95.0%, from approximately RMB190.2 million for 2016 to approximately RMB9.5 million for 2017. Such a downward trend was consistent with the decrease in revenue from the business segment.

*Gross profit*

As a result of the foregoing reasons, the solar power products and services business of the Group recorded a gross loss of approximately RMB7.9 million as of 31 December 2017, as compared with the gross profit of approximately RMB5.2 million for 2016.

**Liquidity and Source of Capital**

In 2017, the Group's cash is mainly used in business operations and the repayment of bank borrowings due.

The following table sets out the net cash flows of the Group for the years ended 31 December 2017 and 2016, and the cash and cash equivalents as at 31 December 2017 and 2016, respectively:

		<b>2017</b>	2016
		<b>(RMB million)</b>	(RMB million)
		(人民幣百萬元)	(Restated) (人民幣百萬元) (重述)
Net cash generated from operating activities	經營活動產生之現金淨額	<b>1,007.7</b>	1,599.2
Net cash generated from investing activities	投資活動產生之現金淨額	<b>1,078.9</b>	2,708.6
Net cash used in financing activities	融資活動使用之現金淨額	<b>(2,525.8)</b>	(2,174.0)
Cash and cash equivalents as at 31 December	於12月31日的現金及現金等價物	<b>3,994.1</b>	4,443.1

***Net cash generated from operating activities***

Net cash generated from the Group's operating activities for 2017 was approximately RMB1,007.7 million, as compared to the net cash generated from the Group's operating activities of approximately RMB1,599.2 million (restated) for 2016, which was mainly due to the decrease in the Group's revenue during the year.

***Net cash generated from investing activities***

Net cash generated from the Group's investing activities for 2017 was approximately RMB1,078.9 million, as compared to the net cash generated from the Group's investing activities of approximately RMB2,708.6 million (restated) for 2016. The decrease of the net cash generated from the Group's investing activities was mainly attributable to the decrease in disposal of property, plant and equipment for 2017 as compared with 2016.

銷售成本

太陽能產品及服務業務的銷售成本從2016年的約人民幣190.2百萬元減少至2017年的約人民幣9.5百萬元，減少約人民幣180.7百萬元或95.0%，減少趨勢與上述業務的收入下降保持一致。

毛利

鑒於上述原因，本集團截至2017年12月31日止錄得太陽能產品及服務業務的毛虧約為人民幣7.9百萬元，而2016年毛利約人民幣5.2百萬元。

**流動資金和資本來源**

2017年，本集團的現金主要供業務經營及償還到期銀行借款之用。

下表分別載列截至2017年及2016年12月31日止年度本集團的現金流量淨額及於2017年及2016年12月31日本集團的現金及現金等價物：

***經營活動產生之現金淨額***

本集團2017年經營活動產生的現金淨額約為人民幣1,007.7百萬元，而2016年本集團經營活動產生的現金淨額約為人民幣1,599.2百萬元(重述)，主要是因為本集團本年收入下降所致。

***投資活動產生之現金淨額***

本集團2017年投資活動產生的現金淨額約為人民幣1,078.9百萬元，而2016年的投資活動產生現金淨額約為人民幣2,708.6百萬元(重述)。投資活動產生之現金淨額減少主要是由於本集團2017年處置物業、廠房及設備較2016年減少所致。



### **Net cash used in financing activities**

Net cash used in the Group's financing activities for 2017 was approximately RMB2,525.8 million, as compared to the net cash used in the Group's financing activities of approximately RMB2,174.0 million for 2016, primarily due to the repayment of corporate bonds of RMB800.0 million by the Group this year.

### **Working capital**

As at 31 December 2017, the Group's cash and cash equivalents were approximately RMB3,994.1 million in total, representing a decrease of approximately RMB449.0 million, as compared to approximately RMB4,443.1 million (restated) for 2016. As at 31 December 2017, the Group had total unutilised bank facilities of approximately RMB18,264.0 million.

The Group's gearing ratio, which is calculated by dividing net debt (including interest-bearing other payables and interest-bearing borrowings, less cash and cash equivalents) by the sum of total equity plus net debt, decreased from 53.6% (restated) as at 31 December 2016 to 48.2% as at 31 December 2017.

Based on the existing cash resources and unutilised bank credit facilities, the directors of the Company (the "Directors") are of the opinion that the Group will have enough working capital to support current requirements and daily operations for the coming 12 months.

### **Inventory analysis**

The inventories were approximately RMB3,145.4 million as at 31 December 2017, which increased by approximately RMB412.1 million, or 15.1%, from approximately RMB2,733.3 million (restated) as at 31 December 2016. The increase was primarily attributed to the increase in inventories of WTG raw materials and finished products.

### **Trade and bills receivables**

Trade and bills receivables decreased by approximately RMB1,226.2 million or 8.7% from approximately RMB14,069.0 million (restated) as at 31 December 2016 to approximately RMB12,842.8 million as at 31 December 2017.

### **Deposits, prepayments and other receivables**

The Group's deposits, prepayments and other receivables decreased by approximately RMB399.2 million or 16.6%, from approximately RMB2,400.4 million (restated) as at 31 December 2016 to approximately RMB2,001.2 million as at 31 December 2017. The decrease was primarily attributable to the decrease in receivables from related parties of the Group and the increase in provision for bad debts.

### **融資活動使用之現金淨額**

本集團2017年融資活動使用的現金淨額約為人民幣2,525.8百萬元，而2016年融資活動使用的現金淨額約為人民幣2,174.0百萬元，主要是因為本集團本年償還公司債人民幣800.0百萬元。

### **運營資金**

於2017年12月31日，本集團的現金以及現金等價物總計約為人民幣3,994.1百萬元，與2016年的約人民幣4,443.1百萬元(重述)相比，減少約人民幣449.0百萬元。於2017年12月31日，本集團尚未使用的銀行信貸總計約為人民幣18,264.0百萬元。

本集團的資產負債率，由淨債務(包括有息其他應付款項和有息借款減去的現金和現金等價物)除以本集團的權益總額及淨債務總和的比例核算，該比率由2016年12月31日的53.6%(重述)減少至2017年12月31日的48.2%。

基於現有資金來源以及尚未使用的銀行信貸額度，本公司的董事(「董事」)認為本集團的運營資金足以支撐當前的需求以及未來12個月的日常運作。

### **存貨分析**

存貨從2016年12月31日的約人民幣2,733.3百萬元(重述)增加約人民幣412.1百萬元或15.1%至2017年12月31日的約人民幣3,145.4百萬元。主要是由於風機原材料及產成品庫存的增加。

### **應收賬款及票據**

應收賬款及票據從2016年12月31日的約人民幣14,069.0百萬元(重述)減少約人民幣1,226.2百萬元或8.7%至2017年12月31日的約人民幣12,842.8百萬元。

### **按金、預付款項及其他應收款項**

本集團的按金、預付款及其他應收款項從2016年12月31日的約人民幣2,400.4百萬元(重述)減少約人民幣399.2百萬元或16.6%至2017年12月31日的約人民幣2,001.2百萬元。此減少主要是本集團應收關聯方款項減少及計提壞賬準備增加所致。

# MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

## 管理層討論與分析(續)

### Trade and bills payables

Trade and bills payables decreased by approximately RMB1,173.4 million or 10.8% from approximately RMB10,858.1 million (restated) as at 31 December 2016 to approximately RMB9,684.7 million as at 31 December 2017, which was primarily attributable to a decrease in sales volume of the Group for the year causing a reduction in the procurement of raw materials required for the production of WTG equipment, and thus a decrease in payables.

### Indebtedness

The following table sets forth the Group's borrowings as at 31 December 2017 and 2016:

### 應付賬款及票據

應付賬款及票據從2016年12月31日的約人民幣10,858.1百萬元(重述)減少約人民幣1,173.4百萬元或10.8%至2017年12月31日的約人民幣9,684.7百萬元。主要是本集團本年銷售量下降，使得生產風機設備所需原材料採購減少，應付款項減少。

### 債項

下表載列於2017及2016年12月31日本集團的借款情況：

		As at 31 December 2017 於2017年12月31日 (RMB million) (人民幣百萬元)	As at 31 December 2016 於2016年12月31日 (RMB million) (人民幣百萬元)
<b>Long-term interest-bearing borrowings</b>	<b>長期帶息借款</b>		
Bank loans:	銀行貸款：		
Secured	有抵押	269.5	202.3
Unsecured	無抵押	160.2	337.6
Other loans	其他貸款	622.9	605.1
Private placement notes (unsecured)	私人配售債務融資工具(無抵押)	2,448.5	2,441.4
Corporate bonds	公司債券	2,035.4	2,843.2
<b>Sub-total</b>	<b>小計</b>	<b>5,536.5</b>	6,429.6
Less: Current portion of long-term borrowings	減：長期借款的即期部份	<b>(1,482.8)</b>	(1,314.0)
<b>Total</b>	<b>合計</b>	<b>4,053.7</b>	5,115.6
<b>Short-term interest-bearing borrowings</b>	<b>短期帶息借款</b>		
Bank loans:	銀行貸款：		
Secured	有抵押	-	520.0
Unsecured	無抵押	5,616.5	6,044.0
Other loans:	其他貸款：		
Guodian (unsecured)	國電(無抵押)	600.0	600.0
Current portion of long-term borrowings	長期借款的即期部份	1,482.8	1,314.0
<b>Total</b>	<b>合計</b>	<b>7,699.3</b>	8,478.0
<b>Total indebtedness</b>	<b>債項總額</b>	<b>11,753.0</b>	13,593.6

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)



As at 31 December 2017, the Group's indebtedness decreased by approximately 13.5% from approximately RMB13,593.6 million as at 31 December 2016 to approximately RMB11,753.0 million. The decrease was mainly due to a reduction in the scale of financing from 2016. The proportion of short-term indebtedness to overall indebtedness increased from approximately 62.4% as at 31 December 2016 to approximately 65.5% as at 31 December 2017, which was mainly due to changes in the structure of long-term borrowings and short-term borrowings as the bonds payable in long-term borrowings for the year decreased.

All of the Group's borrowings are denominated in RMB.

The following table sets out the maturity status of the Group's long-term borrowings (including current portion) as at 31 December 2017 and 31 December 2016 respectively:

		<b>As at</b> <b>31 December 2017</b> 於2017年12月31日 (RMB million) (人民幣百萬元)	As at 31 December 2016 於2016年12月31日 (RMB million) (人民幣百萬元)
Less than 1 year or on demand	1年內或按要求償還	<b>1,482.8</b>	1,314.0
More than 1 year but less than 2 years	1年以上但2年以內	<b>1,721.9</b>	1,365.3
More than 2 years but less than 5 years	2年以上但5年以內	<b>2,321.7</b>	2,170.7
More than 5 years	5年以上	<b>10.1</b>	1,579.6
<b>Total</b>	<b>合計</b>	<b>5,536.5</b>	6,429.6

The effective interest rate of the Group (determined by dividing total interest expenses for 2017 by the average of the sums of outstanding borrowings as at 1 January 2017 and 31 December 2017) decreased from approximately 4.3% for 2016 to approximately 3.9% for 2017. The decrease in the Group's effective interest rate was primarily due to the central bank's three successive announcements of the lowering of interest rates this year to foster a moderately loose monetary policy.

#### Contingent liabilities

The Group's contingent liabilities as at 31 December 2017 primarily consisted of bid, performance and quality guarantees provided by the Group.

於2017年12月31日，本集團債項約為人民幣11,753.0百萬元，比於2016年12月31日的債項約人民幣13,593.6百萬元減少約13.5%。其減少主要是由於自2016年起壓降融資規模。其中短期債項佔總債項的比例從於2016年12月31日的約62.4%增加至2017年12月31日的約65.5%，主要是由於本年長期借款中應付債券減少，改變了長短期借款的比例結構。

本集團期內所有的借款都以人民幣計算。

下表載列本集團分別於2017年12月31日及2016年12月31日的長期借款(包括即期部份)到期情況：

本集團的實際利率(以2017年總利息開支除以2017年1月1日與2017年12月31日的未償還借款的平均值釐定)從2016年的約4.3%下降至2017年的約3.9%，主要是本年央行連續三次宣佈下調利率，貨幣政策適度寬鬆。

#### 或有負債

本集團於2017年12月31日的或有負債主要包括本集團提供的投標、履約和質量擔保。



### Major Investment

On 22 December 2017, Longyuan Technology, a non-wholly owned subsidiary of the Company, entered into the Investment Cooperation Agreement and Shareholders' Agreement with Guodian Shandong Electric Power Co., Ltd. ("**Guodian Shandong**"), pursuant to which both parties contributed to establish a joint venture company to engage in construction of the wind power project of Guodian Dongping. The scale under construction of the wind power project of Guodian Dongping is tentatively to be 96,000 kw and the actual scale under construction will be determined in accordance with the relevant policies and requirements of the local government. The registered capital of the joint venture company amounted to RMB159.0 million. The proportion and contribution amounts of registered capital of the joint venture company which both parties accounted for: (i) Longyuan Technology accounted for 24%, contributing to approximately RMB38.2 million; and (ii) Guodian Shandong accounted for 76%, contributing to approximately RMB120.8 million.

In 2017, the investment of the Group amounted to approximately RMB174.6 million in aggregate, of which infrastructure investment amounted to approximately RMB44.0 million, which was used for the phase II desulphurisation and denitrification concession operations project in Suqian, Jiangsu Province; technological transformation investment amounted to approximately RMB130.5 million, which was mainly used for the technological upgrading and transformation of desulphurisation and denitrification concession operations projects and the technological upgrading and transformation of wastewater treatment plants, etc.

### Acquisition

On 13 September 2017, Longyuan Energy Saving, a wholly-owned subsidiary of the Company, entered into the Equity Transfer Agreement with Guodian Science and Technology Research Institute ("**GSTRI**"), pursuant to which, Longyuan Energy Saving has conditionally agreed to purchase, and GSTRI has conditionally agreed to sell, the latter's 100% equity interest in Lantian Company at a consideration of RMB48,156,500.

### Disposal or Deemed Disposal

On 11 November 2016, the Group entered into a sale and purchase agreement to dispose of the entire equity interests in Guodian United Power Technology (Changchun) Co., Ltd. ("**Changchun Company**") to a related party under Guodian for a consideration of RMB253.6 million. In September 2017, the carrying value of the net assets of Changchun Company as at the disposal date amounted to RMB276.3 million. Upon completion of the disposal, Changchun Company was no longer a subsidiary of the Group.

### 重大投資

於2017年12月22日，本公司的非全資附屬公司龍源技術與國電山東電力有限公司(「**國電山東**」)簽訂投資合作協議及股東協議，據此，雙方合資設立合營公司，從事國電東平風電項目建設。東平風電項目建設規模暫定9.6萬千瓦，實際建設規模根據當地政府相關政策及要求確定。合營公司的註冊資本金為人民幣159.0百萬元，雙方佔合營公司註冊資本金的比例和出資金額分別為：(i)龍源技術佔24%，出資約人民幣38.2百萬元；及(ii)國電山東佔76%，出資約人民幣120.8百萬元。

本集團2017年完成投資共計約人民幣174.6百萬元，其中，基建投資約人民幣44.0百萬元，用於建設江蘇宿遷二期脫硫、脫硝特許經營項目；技改投資約人民幣130.5百萬元，主要進行了脫硫脫硝特許經營項目技術升級改造、污水處理廠技術升級改造等。

### 收購

於2017年9月13日，本公司全資附屬公司龍源節能與國電科學技術研究院(「**國電科技研究院**」)訂立股權轉讓協議，據此，龍源節能有條件同意購買，而國電科技研究院有條件同意出售其於藍天公司的100%股權，代價為人民幣48,156,500元。

### 出售或視為出售

於2016年11月11日，本集團與國電集團下屬關連人士簽署買賣協議，以人民幣253.6百萬元的對價轉讓國電聯合動力技術(長春)有限公司(「**長春公司**」)的所有股權。於出售日2017年9月，長春公司的淨資產賬面價值為人民幣276.3百萬元。出售完成後，長春公司不再為本集團之附屬公司。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

On 28 December 2016, the Group entered into a sale and purchase agreement to dispose of the 85.8% equity interests in Guodian United Power Technology (Yixing) Co., Ltd. (“**Yixing Company**”) to a third party at a consideration of RMB256.2 million. In February 2017, the carrying value of the net assets of Yixing Company attributable to the Group as at the disposal date amounted to RMB119.5 million. Upon completion of the disposal, Yixing Company was no longer a subsidiary of the Group.

On 13 January 2017, the Group entered into a sale and purchase agreement to dispose of the 51% equity interests in Beijing Longyuan Environmental Engineering Co., Ltd. (“**Beijing Longyuan Environmental**”) to a third party at a consideration of RMB385.0 million. In January 2017, the carrying value of the net assets of Beijing Longyuan Environmental attributable to the Group as at the disposal date amounted to RMB40.7 million. Upon completion of the disposal, Beijing Longyuan Environmental was no longer a subsidiary of the Group.

On 22 January 2017, the Group entered into a sale and purchase agreement to dispose of the 51% equity interests in Guodian Zhaojing Optoelectronics Technology Jiangsu Co., Ltd. (“**Guodian Zhaojing**”) to a third party at a consideration of RMB137.7 million. In February 2017, the carrying value of the net assets of Guodian Zhaojing attributable to the Group as at the disposal date amounted to RMB39.4 million. Upon completion of the disposal, Guodian Zhaojing was no longer a subsidiary of the Group.

On 30 March 2017, Longyuan Technology disposed of a 51% equity interest in its subsidiary Shanghai Yinguo Thermal Power Equipment Co., Ltd. (“**Shanghai Yinguo**”) in a public listing process through Shanghai Equity Exchange at a consideration of RMB2.6 million. On 22 May 2017, both parties entered into a sale and purchase agreement. Upon completion of the disposal, Shanghai Yinguo was no longer a subsidiary of the Group.

On 1 November 2017, United Power disposed of a 51% equity interest in its subsidiary United Power Yangtze (Jiangsu) Co., Ltd. (“**Yangtze Company**”) in a public listing process through China Beijing Equity Exchange at a consideration of RMB24.0 million. On 13 December 2017, both parties entered into a sale and purchase agreement. As the control has not been transferred, Yangtze Company is still a subsidiary of the Group.

#### Market risk

The Group is exposed to various risks associated with its business operations, including credit and counterparty risk, interest rate risk, liquidity risk and exchange rate risk.

於2016年12月28日，本集團與第三方簽署買賣協議，以人民幣256.2百萬元的對價轉讓國電聯合動力技術(宜興)有限公司(「**宜興公司**」)的85.8%股權。於出售日2017年2月，宜興公司歸屬於本集團的淨資產賬面價值為人民幣119.5百萬元。出售完成後，宜興公司不再為本集團之附屬公司。

於2017年1月13日，本集團與第三方簽署買賣協議，以人民幣385.0百萬元的對價轉讓北京龍源環保工程有限公司(「**北京龍源環保**」)51%股權。於出售日2017年1月，北京龍源環保歸屬於本集團的淨資產賬面價值為人民幣40.7百萬元。出售完成後，北京龍源環保不再為本集團之附屬公司。

於2017年1月22日，本集團與第三方簽署買賣協議，以人民幣137.7百萬元的對價轉讓國電兆晶光電科技江蘇有限公司(「**國電兆晶**」)51%股權。於出售日2017年2月，國電兆晶歸屬於本集團的淨資產賬面價值為人民幣39.4百萬元。出售完成後，國電兆晶不再為本集團之附屬公司。

於2017年3月30日，龍源技術通過上海產權交易所所以人民幣2.6百萬元的對價公開掛牌出售其附屬公司上海銀鍋熱能設備有限公司(「**上海銀鍋**」)51%股權，雙方於2017年5月22日簽署買賣協議。出售完成後，上海銀鍋不再為本集團之附屬公司。

於2017年11月1日，聯合動力通過北京產權交易所所以人民幣24.0百萬元的對價公開掛牌出售附屬公司聯合動力長江(江蘇)有限公司(「**長江公司**」)51%股權，雙方於2017年12月13日簽署買賣協議。由於控制權尚未轉移，長江公司仍為本集團之附屬公司。

#### 市場風險

本集團面臨著與其業務經營有關的多種風險，包括信貸和交易對手風險、利率風險、流動資金風險和匯率風險。

### **Credit and counterparty risk**

The Group's credit risk is primarily attributable to cash at bank and in hand, trade and bills receivables, deposits, prepayments and other receivables and other non-current assets. Management has a credit policy in place and the exposure to these credit risks are monitored on an ongoing basis.

Substantially all of the Group's cash at bank and in hand are deposited in the stated owned/controlled PRC banks which the directors of the Company assessed the credit risk to be insignificant.

The Group performed credit evaluations on all of its customers, and monitors outstanding receivables due from such customers on an ongoing basis. The Group's credit evaluation focuses on a customer's payment history and its ability to pay and takes into account industry and customer-specific considerations, as well as the general macroeconomic climate. The Group generally requires its customers to settle progress billings and other debts in accordance with agreed contract terms.

### **Interest rate risk**

The Group's interest rate risk arises primarily from long-term borrowings. Borrowings issued at variable rates expose the Group to cash flow interest rate risk.

The Group regularly reviews and monitors the mix of fixed and variable rate borrowings in order to manage its interest rate risks. During the year, however, the management of the Group did not consider the use of interest rate swaps to hedge their exposure to interest to be necessary.

### **Liquidity risk**

The nature of the Group's business gives rise to significant irregularity in its cash flow. Through regular collection of receivables and while ensuring sound operations, thereby was able to significantly increase the Company's operating cash. Meanwhile, the Group proposed to improve its financing structure and increase the proportion of long-term loans by issuing mid-term and long-term bonds and introducing financial leasing. The Group is committed to ensuring sufficient working capital to meet its operating needs or having access to adequate bank credit to maintain uninterrupted operations. The Group's cash flow position is essential for its continuous development and expansion.

### **信貸和交易對手風險**

本集團信貸風險主要歸因於銀行存款及庫存現金、應收賬款及票據、按金、預付款項和其他應收款項，以及其他非流動資產。本集團定有內部信貸政策，並以持續的方式對其交易對方信貸風險進行監控。

本集團絕大部份現金都存於中國國有或國有控股的銀行業金融機構中。因此，本公司董事認為該等風險並不重大。

本集團對其所有客戶進行信用評估，並持續監控客戶的重大應收款項。本集團的信用評估注重客戶的付款記錄及付款能力，並考慮行業和客戶的具體因素，以及宏觀經濟環境。本集團一般要求其客戶按照合約協議條款支付進度付款和其他債務。

### **利率風險**

本集團的利率風險主要來自於長期借款。浮動利率借款使本集團暴露於現金流利率風險之下。

本集團定期審查並監控固定利率及浮動利率借款的組合。然而，本集團管理層認為在本年度無需通過利率掉期，對沖本集團的利率風險。

### **流動資金風險**

鑒於其所經營的業務性質，本集團的現金流量具有顯著的不規則性。本集團在保證經營狀況良好的前提下，通過常態化應收賬款清收，大幅改善了公司經營現金。同時，本集團擬通過發行中長期債券、開展融資租賃等業務，改善融資結構，提高長期借款比例，本集團旨在確保其有足夠營運資金以達到其經營需求，或者能夠獲得充足的銀行信貸以不中斷地持續運營。本集團的現金流量狀況對於其持續發展和擴張不可或缺。



### **Exchange rate risk**

The continued development and expansion of the Group's international operations is expected to result in increased exposure to exchange rate risk, arising primarily through export sales which would typically be denominated in foreign currencies. The Group expects that its future export sales will principally be denominated in either United States dollars, or Hong Kong dollars. In 2017, the Group recorded an exchange loss of RMB12.4 million, mainly because the Hong Kong dollars deposits of the Company and amounts due from Guodian Technology & Environment Group Hong Kong Corporation Limited, a subsidiary, were denominated in Hong Kong dollars and there had been a depreciation in Hong Kong dollar. The Directors of the Company consider that the Group's exchange rate risk is insignificant. The Group does not currently hedge against its exchange rate risk.

RMB currently is not a freely convertible currency and the PRC government may at its discretion restrict access to foreign currency exchange for current account transactions in the future. Changes in such foreign exchange controls may adversely affect the Group's international operations and sales, and may limit the Group's ability to satisfy its foreign exchange denominated obligations. In addition, the Group may be restricted from paying dividends on its listed H-shares to shareholders by any such policy changes.

### **Business prospects for 2018**

#### ***To speed up the structural optimization and adjustment and further improve the corporate development quality***

The Group will continue to adhere to the foundation established for the benefit of the overall efficient growth of the Company by streamlining organization, enhancing quality and efficiency. It plans to speed up the cultivation of strategic emerging industries and enhance the efficiency of capital allocation, solve the problems left over by history, unravel the operating mechanism, settle the outstanding contradictions in the layout and structure, and improve the quality of development and the level of profit by increasing revenues, reducing expenditures, optimizing structure, promoting management, etc.

#### ***To improve the construction of quality and service and further enhance the reputation of the enterprise brand***

The Group will take quality and service awareness as the cornerstone for its survival and development. It will further improve the quality of products and projects, keep pace with the advanced international standards, establish a quality control system for the whole staff, whole process and whole life cycle, improve the service, quality, duration assessment mechanism, and continuously improve the product quality and customer service capability.

### **匯率風險**

本集團國際業務的持續發展和擴張預計將導致其面臨的匯率風險增加。這種增加主要來自於通常以外幣計價的出口銷售。本集團預計其未來的出口銷售將主要以美元或港元計價。本集團於2017年發生匯率損失人民幣12.4百萬元，主要是由於本公司港幣存款及應收附屬公司國電科技環保集團香港有限公司以港幣計價，港幣發生貶值帶來的。本公司董事認為匯率風險不重大。本集團目前未對沖其匯率風險。

目前人民幣並不是自由兌換的貨幣，未來中國政府可能會酌情決定限制經常賬戶交易的外匯準入。對外幣兌換管控的變化可能會對本集團的國際業務和銷售帶來負面影響，也可能會限制本集團滿足其外匯計價義務。此外，由於政策變化，本集團向其股東支付上市的H股的股息可能會被限制。

### **2018年業務展望**

#### ***加速結構優化調整，進一步改進企業發展質量***

本集團要繼續將瘦身健體、提質增效作為公司整體效益增長的基礎，計劃從增收節支、優化結構及管理提升等方面入手，加快培育戰略性新興產業，提升資本配置效率，解決歷史遺留問題，破解運行機制、佈局結構上的突出矛盾，切實提高發展質量與盈利水平。

#### ***提升質量服務建設，進一步提升企業品牌美譽度***

本集團要切實將質量和服務意識作為企業賴以生存和發展的基石，進一步提升產品和工程質量，對標國際先進，建立全員、全過程、全生命週期的質量控制體系，完善服務、質量及工期考核機制，不斷提升產品質量和客戶服務能力。

***To strengthen the implementation of the reform measures and make further new marketing breakthroughs***

The Group will persist in being market-oriented and enterprise-based. It will activate the subjective initiative, optimize the sales mechanism, make the customer channels smooth, implement the sharing of resources, cultivate the sales teams, promote the market-oriented reforms and improve the profitability.

***To adhere to the drive of the scientific and technological innovation and further build the core competitiveness of the enterprise***

The Group will adhere to the top-level strategy driven by innovation, take science and technology planning as the guiding principle, strengthen the scientific and technological information research, intellectual property management and cooperation among industry, school, research institute and applied practice, and improve the motivational and restraint mechanisms for the scientific and technological research and development. With Artificial Intelligence as the upgrading and future development trend of the existing businesses of the Company, it will define the main direction and breakthrough of science and technology, seek new economic growth points and promote the development of industry.

***抓好改革舉措落地，進一步取得市場開拓新突破***

本集團要堅持以市場為引領，以企業為主體，發揮主觀能動性，優化銷售機制，暢通客戶渠道，實現資源共享，培育銷售隊伍，推進市場化改革，提升盈利能力。

***堅持科技創新驅動，進一步打造企業核心競爭力***

本集團要堅持創新驅動頂層戰略，以科技規劃為引領，加強科技情報研究、知識產權管理及產學研用合作，完善科技研發激勵和約束機制，以智能化作為公司現有業務升級換代和未來發展的趨勢，明確科技主攻方向和突破口，尋找新的經濟增長點，帶動產業發展。



# DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

## 董事、監事及高級管理人員

### BOARD OF DIRECTORS

The Board of Directors currently consists of eleven Directors, including three executive Directors, four non-executive Directors and four independent non-executive Directors. The functions and responsibilities of the Board of Directors include: convening general meetings, reporting its work in general meetings, implementing resolutions approved in general meetings, ascertaining the Company's business plans and investment plans, preparing the Company's annual budget and final accounts, preparing the Company's profit distribution plans and proposals for the increase in or reduction of registered capital and exercising other powers, functions and responsibilities as set out in the articles of association of the Company ("the Articles of Association"). The Company has entered into a service contract or appointment letter with each Director.

The following table sets out certain information relating to the Directors of the Company. The members of the third session of the Board of Directors were re-elected and appointed at the first extraordinary general meeting of the Company held on 8 August 2017. The current term for all the Directors will expire on 7 August 2020.

### 董事會

董事會由11名董事組成：3名執行董事、4名非執行董事及4名獨立非執行董事。董事會的職能及職責包括：召集股東大會；於股東大會上報告董事會的工作；執行股東大會通過的決議；確定本公司業務計劃及投資計劃；制訂本公司年度預算及決算；制訂本公司利潤分配方案及關於註冊資本增減的議案；以及行使本公司《公司章程》所賦予的其他權力、職能及職責。本公司與各董事訂立了服務合約或任命書。

下表載述有關本公司董事的若干資料。本公司於2017年8月8日舉行的2017年第一次臨時股東大會上進行第三屆董事會成員的重選及委任。本屆所有董事的任期將於2020年8月7日屆滿。

Name 姓名	Age 年齡	Position 職位	Date of Joining the Group 加入日期	Date of Appointment/ Re-appointment 委任/重選日期
Mr. CHEN Dongqing 陳冬青先生	52	Executive Director and Chairman of the Board of Directors 執行董事兼董事長	4 February 2016 2016年2月4日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. ZHANG Jun 張軍先生	54	Executive Director 執行董事	September 2004 2004年9月	Appointed on 8 August 2017 2017年8月8日獲委任
Mr. TANG Chaoxiong 唐超雄先生	50	Executive Director 執行董事	12 October 2015 2015年10月12日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. WANG Zhongqu 王忠渠先生	56	Non-executive Director 非執行董事	16 May 2014 2014年5月16日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. ZHANG Wenjian 張文建先生	54	Non-executive Director 非執行董事	16 May 2014 2014年5月16日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. GU Yuchun 顧玉春先生	54	Non-executive Director 非執行董事	8 August 2017 2017年8月8日	Appointed on 8 August 2017 2017年8月8日獲委任
Mr. YAN Andrew Y. 閻焱先生	60	Non-executive Director 非執行董事	8 June 2012 2012年6月8日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. SHEN Xiaoliu 申曉留先生	67	Independent Non-executive Director 獨立非執行董事	29 March 2016 2016年3月29日	Re-appointed on 8 August 2017 2017年8月8日獲重選

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED) 董事、監事及高級管理人員(續)

Name 姓名	Age 年齡	Position 職位	Date of Joining the Group 加入日期	Date of Appointment/ Re-appointment 委任／重選日期
Mr. QU Jihui 曲久輝先生	60	Independent Non-executive Director 獨立非執行董事	16 May 2014 2014年5月16日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. XIE Qiuye 謝秋野先生	58	Independent Non-executive Director 獨立非執行董事	16 May 2014 2014年5月16日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. Yeung Chi Tat 楊志達先生	48	Independent Non-executive Director 獨立非執行董事	8 August 2017 2017年8月8日	Appointed on 8 August 2017 2017年8月8日獲委任

**Mr. CHEN Dongqing** is the Secretary of the Party Committee, an executive Director and the Chairman of the Board of Directors of the Company. Mr. CHEN joined the Group on 4 February 2016. Mr. CHEN served as the deputy director of the Quality and Technology Office of the Thermal Power Construction Department and the New Energy Development Office of the Power Construction Department of State Power Corporation; the director of the General Office of the Engineering & Construction Department and the deputy head of the Engineering & Construction Department of Guodian Group; the vice general manager of the Southern Branch of Guodian Group; the vice general manager of Guodian Guangdong Power Co., Ltd.; and the secretary of the leading Party members' group and the vice general manager of Guodian Fujian Power Co. Ltd., the deputy secretary of the Party Committee, executive director and general manager of the Company. Mr. CHEN obtained a master's degree in Power Plant Engineering from Northeast China Institute of Electric Power Engineering. Mr. CHEN is a senior engineer.

**陳冬青先生**，為本公司黨委書記、執行董事兼董事長。陳先生於2016年2月4日加入本集團。陳先生歷任國家電力公司火電建設部質量技術處副處長、電源建設部新能源發展處副處長，國電集團工程建設部綜合處處長、工程建設部副主任，國電南方分公司副總經理，國電廣東電力有限公司副總經理，國電福建電力有限公司黨組書記、副總經理，本公司黨委副書記、執行董事及總經理等職務。陳先生畢業於東北電力學院發電廠工程專業並獲得碩士學位。陳先生是高級工程師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. ZHANG Jun** is the deputy Secretary of the Party Committee of the Company, an executive Director and the general manager. Mr. ZHANG joined the Group in September 2004. He has ever been the engineer, deputy superintendent, superintendent of North China Electric Power Bureau-Beijing Power Equipment Factory First Branch; the engineer of the Foreign Investment Introduction Office and economist of the Multi-economy Office of Beijing Power Equipment Factory; the manager of the Manufacture Department and the general manager of Longwei Company of Longyuan Electric Power Group Corporation; the manager of the Hi-tech Industry Department of Guodian Power; the Party Group member, the assistant to general manager and vice general manager of Guodian Technology & Environment Group Corporation Limited (the predecessor of the Company); the general manager of Longwei Power Generation Technology Co., Ltd (later renamed as "Guodian United Power Technology Company Limited"); the vice director of the Technology and Comprehensive Industry Department of Guodian Group; the vice president and Party Group member of Guodian New Energy Technology Research Institute; the secretary of the Party Committee of GSTRI (Environmental Protection Research Institute) and the vice president of GSTRI. Mr. ZHANG graduated from Chongqing University and obtained the bachelor's degree in casting, and then graduated from Tsinghua University and obtained the degree of MBA. Mr. ZHANG is a senior engineer.

**Mr. TANG Chaoxiong** is a member of the Party Committee, an executive Director, the vice general manager and the chief accountant of the Company. Mr. TANG concurrently serves as the chairman of Longyuan Technology. Mr. TANG joined the Group on 12 October 2015. Mr. TANG served as the deputy director of the financial department of Sichuan Electric Power Corporation; the deputy director of the financial department of State Power Corporation; director of the financing and accounting division of the financial property department of Guodian Group; the vice general manager and a member of the Party Committee of Guodian Finance Co., Ltd. ("**Guodian Finance**"); the vice general manager and a member of the Party Committee of China Guodian Capital Holdings Ltd. ("**Guodian Capital**"); and the vice chairman of Bank of Shizuishan Co. Ltd.. Mr. TANG obtained a bachelor's degree in finance and accounting from Changsha Normal College of Water Resources and Electric Engineering (currently known as Changsha University of Science & Technology) and a master's degree in accounting from Hunan University of Finance and Economics (currently known as Hunan University). Mr. TANG is a senior accountant.

**張軍先生**，為本公司黨委副書記、執行董事及總經理。張先生於2004年9月加入本集團。張先生歷任華北電力局北京電力設備總廠一分廠工程師、車間副主任、主任，北京電力設備總廠外資引進辦公室工程師、多經處經濟師，龍源電力集團公司龍威公司製造部經理、總經理，國電電力高科技產業部經理，國電科技環保集團有限公司(本公司前身)黨組成員、總經理助理、副總經理，龍威發電技術服務有限公司(後更名為國電聯合動力技術有限公司)總經理，國電集團科技與綜合產業部副主任，國電新能源技術研究院副院長、黨組成員，國電科技研究院(環境保護研究院)黨委書記、副院長。張先生畢業於重慶大學鑄造專業並取得學士學位，亦畢業於清華大學工商管理專業並取得工商管理碩士學位。張先生為高級工程師。

**唐超雄先生**，為本公司黨委委員、執行董事、副總經理及總會計師。唐先生目前還兼任龍源技術董事長。唐先生於2015年10月12日加入本集團。唐先生歷任四川省電力公司財務部副處長，國家電力公司財務部副處長，國電集團財務產權部財會處處長，國電財務有限公司(「**國電財務**」)副總經理、黨組成員，國電資本控股有限公司(「**國電資本**」)副總經理、黨組成員，石嘴山銀行股份有限公司副董事長。唐先生畢業於長沙水利電力師範學院(現為長沙理工大學)，獲得財務與會計專業學士學位，亦於湖南財經大學(現為湖南大學)獲得會計專業碩士學位。唐先生為高級會計師。



## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. WANG Zhongqu** is a non-executive Director of the Company. Mr. WANG also serves as the chief supervisor of the Work Safety and the head of the Work Safety Office of Guodian Group. Mr. WANG joined the Group on 16 May 2014. Mr. WANG served successively as the boiler engineer at Electric Power Research Institute in Hebei Province; the engineer and the manager of production planning of Electric Power Industry Bureau of Hebei Province; the assistant to the manager of Electric Power plant of Xibaipo branch of Hebei Power Grid; the deputy manager of Hengshui Power Plant of Hebei Province; the manager and the deputy head of the Power Plant Preparatory Office of Hanfeng Power Plant of Hebei Power Plant; and the deputy head of the Work Safety Office of Guodian Group. Mr. WANG obtained a bachelor's degree in thermal energy and power from Shandong Industry Institution and a master's degree in power engineering from Huabei Electric Power University. Mr. WANG is a senior engineer.

**Mr. ZHANG Wenjian** is a non-executive Director of the Company and also serves as the head of the Technology and General Industry Office of Guodian Group. Mr. ZHANG joined the Group on 16 May 2014. Mr. ZHANG served successively as the deputy head of the Electric Usage Office; the head of the Electric Dispatch Office; the manager of the Production Planning; the assistant of the director and the deputy director of Hengshui Electric Power Bureau; the secretary of the Party Committee of Hanfeng Power plant; the director of Xingtai Power plant; the deputy head and head of the marketing department of Guodian Group. Mr. ZHANG obtained a bachelor's degree in Power plant and Electric Power System from Huabei Electric Power College, and a master's degree from Huabei Electric Power University in technology economy and management. Mr. ZHANG is a senior engineer.

**王忠渠先生**，為本公司非執行董事。王先生同時擔任國電集團安全生產總監、安全生產部主任。王先生於2014年5月16日加入本集團。王先生歷任河北省電力研究所鍋爐室工程師，河北省電力工業局生計處工程師、科長，河北省電力公司西柏坡發電廠廠長助理，河北省電力公司衡水發電廠生產副廠長，河北省電力公司邯峰發電廠籌建處副主任、發電廠廠長，國電集團安全生產部副主任。王先生畢業於山東工業大學熱能動力專業，獲得學士學位；亦畢業於華北電力大學動力工程專業，獲得碩士學位。王先生是高級工程師。

**張文建先生**，為本公司非執行董事。張先生同時擔任國電集團科技與綜合產業部主任。張先生於2014年5月16日加入本集團。張先生歷任衡水電業局用電所副所長、調度所所長、生計科科長、局長助理、副局長，邯峰電業局黨委書記，邢台電業局局長，國電集團市場營銷部副主任、市場營銷部主任。張先生畢業於華北電力學院發電廠及電力系統專業，獲得學士學位；亦畢業於華北電力大學技術經濟與管理專業，獲得碩士學位。張先生是高級工程師。



## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)



**Mr. GU Yuchun** is a non-executive Director of the Company. Mr. GU is concurrently a member of the Party Committee and the vice general manager of Guodian Power. Mr. GU joined the Group on 8 August 2017. Mr. GU has served as the vice chief engineer of Electric Power Planning & Engineering Institute; the project manager of ABB ALSTOM Beijing Engineering Consulting Company; the department director of the US-funded Puqi Saide Power Generation Co., Ltd; the project manager and the vice chief engineer of Beijing Boqi Technology Co., Ltd; the vice director and the director of the Electric Power Development Department of Guodian Group North China Branch; the general manager of Guodian Inner Mongolia Dongsheng Co-Generation Power Co., Ltd.; the vice chief engineer of Guodian Power. and concurrently the general manager and the vice secretary of the Party Committee of Guodian Construction Investment Inner Mongolia Energy Co., Ltd; the assistant to general manager of Guodian Power. and the general manager and the vice secretary of the Party Committee of Guodian Construction Investment Inner Mongolia Energy Co., Ltd. Mr. GU graduated from Zhejiang University and obtained the degree of bachelor of thermal power, then graduated from Huazhong University of Science and Technology and obtained the degree of master of power engineering; and finally graduated from Nankai University and obtained the degree of EMBA. Mr. GU is a professor-level senior engineer.

**Mr. YAN Andrew Y.** is a non-executive Director of the Company and serves concurrently as the founding managing partner of SAIF Partners. Mr. YAN joined the Group on 8 June 2012. Mr. YAN served as the lead engineer at Jianghuai Aviation Instrument Factory; the economist of Washington headquarter of the World Bank; a researcher of Hudson Institute in the United States; the director of strategic planning and business development for the Asia Pacific region of Sprint International Corporation successively; the managing director of Emerging Markets Partnership, the management company of AIG Asia Infrastructure Fund; and the head of Hong Kong office of AIG Asia Infrastructure Fund. Mr. YAN majored in airplane design and obtained his bachelor's degree in engineering from Nanjing University of Aeronautics and Astronautics (formerly known as Nanjing Aeronautic Institute), studying for a master's degree in sociology from Peking University and a master's degree in international political economy from the Princeton University.

**顧玉春先生**，為本公司非執行董事。顧先生同時擔任國電電力黨委委員、副總經理。顧先生於2017年8月8日加入本集團。顧先生歷任電力規劃設計總院副總工程師，ABB ALSTOM北京工程諮詢公司項目經理，美資浦圻賽德發電有限公司部門主任，北京博奇科技有限公司項目經理、副總工程師，國電集團華北分公司電源發展部副主任、主任，國電內蒙古東勝熱電有限公司總經理，國電電力副總工程師兼國電建投內蒙古能源有限公司總經理、黨委副書記，國電電力總經理助理兼國電建投內蒙古能源有限公司總經理、黨委副書記。顧先生畢業於浙江大學熱能動力專業取得學士學位，並於華中科技大學動力工程專業取得工程碩士學位，亦於南開大學高級工商管理專業取得高級工商管理碩士學位。顧先生是教授級高級工程師。

**閻焱先生**，為本公司非執行董事，並為賽富亞洲投資基金的創始管理合夥人。閻先生於2012年6月8日加入本集團。閻先生歷任江淮航空儀錶廠主管工程師，華盛頓世界銀行總部經濟學家，美國哈德遜研究所研究員，Sprint International Corporation亞太區戰略規劃及業務發展董事，AIG亞洲基礎設施投資基金的管理公司Emerging Markets Partnership之董事總經理及香港辦公室主任。閻先生畢業於南京航空學院(現南京航空航大天大學)飛機設計專業，並獲得工程學學士學位。閻先生曾於北京大學攻讀社會學碩士學位，並獲得普林斯頓大學國際政治經濟碩士學位。





## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. SHEN Xiaoliu** is an independent non-executive Director of the Company. Mr. SHEN joined the Group on 29 March 2016. Mr. SHEN is a professor of the School of Control and Computer Engineering of North China Electric Power University, and an expert of the State Key Laboratory of Alternate Electric Power System with Renewable Energy Resources and the Key Laboratory of the Institution of the energy internet and power big data of North China Electric Power University. Mr. SHEN served as a technician in Shanxi Linfen Electric Power Bureau; an engineer at the dispatching center of the Electric Power Bureau of Shanxi Province; a teacher in the thermal power engineering teaching and research section of the Graduate School of North China Electric Power University; the director of the information center of the Electric Power Bureau of Shanxi Province; and the deputy division director of the education division of Shanxi Electric Power Company. Mr. SHEN obtained a bachelor's degree in Industrial Automation from the Department of Electrical Engineering of Taiyuan University of Technology, and a master of engineering degree in Electric Power System and Automation from the Beijing Graduate School of North China Electric Power University.

**Mr. QU Jiuhui** is an independent non-executive Director of the Company. Mr. QU joined the Group on 16 May 2014. Mr. QU currently serves as a researcher and the director of academic degree evaluation committee of Research Center for Eco-environmental Sciences, Chinese Academy of Sciences. Mr. QU serves concurrently as the vice chairman in All-China Environment Federation; the vice chairman of Chinese Society for Environmental Sciences; the vice chairman of Chinese Society for Sustainable Development; and a member of the National Advisory Council on Environment. Mr. QU served as the deputy director and the director of the Research Center for Eco-environmental Sciences. Mr. QU's research field focused on the science and technology on water quality as well as water pollution control. Mr. QU has been nominated as an independent non-executive director of Dongjiang Environmental Company Limited (HK.0895; SZ.002672). Mr. QU obtained a PhD degree from Harbin University of Civil Engineering and Architecture. Mr. QU was elected as an academician of China Academy of Science in 2009.

**申曉留先生**，為本公司獨立非執行董事。申先生於2016年3月29日加入本集團。申先生現任華北電力大學控制與計算機工程學院教授，國家新能源電力系統重點實驗室、華北電力大學能源互聯網與電力大數據研究所專家。歷任山西臨汾電業局技術員，山西省電業局調度中心工程師，華北電力大學北京研究生部動力系熱自教研室教師，山西省電業局信息中心主任，山西省電力公司教育處副處長。申先生畢業於太原理工大學電機系工業自動化專業並獲得學士學位，亦畢業於華北電力大學北京研究生部，獲得電力系統及其自動化專業工學碩士學位。

**曲久輝先生**，為本公司獨立非執行董事。曲先生於2014年5月16日加入本集團。曲先生現任中國科學院生態環境研究中心研究員及學位委員會主任。兼任中華環保聯合會副主席、中國環境科學學會副理事長、中國可持續發展研究會副理事長、國家環境諮詢委員會委員等職務。曲先生曾任中國科學院生態環境研究中心副主任及主任。其研究領域為水質科學與技術，水污染治理等。曲先生同時也是東江環保股份有限公司(HK.0895；SZ.002672)的獨立非執行董事。曲先生獲得哈爾濱建築大學博士學位，並於2009年當選中國工程院院士。



## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. XIE Qiuye** is an independent non-executive Director of the Company. Mr. XIE joined the Group on 16 May 2014. Mr. XIE currently serves as the president and the secretary of the Party Committee of Electric Power Planning & Engineering Institute, the chairman of the board of directors (an executive director), secretary of the Party Committee of Electric Power Planning & Engineering Institute Co., Ltd. Mr. XIE served successively as the deputy chief engineer and the vice president of Northwestern Electric Power Design Institute, the deputy president and the chief engineer of China Power Construction Engineering Consulting Corporation; the manager of power generation branch of China Power Engineering Consulting (Group) Corporation; president of Central Southern China Electric Power Design Institute and the vice president of the Electric Power Planning and Engineering Institute. Mr. XIE obtained a bachelor's degree in thermal energy from Chongqing University. Mr. XIE is a professor-level senior engineer and a national investigation and design master.

**Mr. YEUNG Chi Tat** is an independent non-executive Director of the Company. Mr. YEUNG joined the Group on 8 August 2017. Currently, he is the deputy president and Executive Council Member of the Hong Kong Independent Non-Executive Director Association, the Vice-president of Young Professional Alliance – Accountancy Sector, the Vice president of Hong Kong General Chamber of Wine & Spirits, the Greater China Development Working Committee member of The Association of Hong Kong Accountants and a Certified Public Accountant practicing in Hong Kong. He is also an Independent Non-executive Director of ANTA Sports Products Limited (HK.2020), Boer Power Holdings Limited (HK.1685) and Sitoy Group Holdings Limited (HK.1023) which are listed on the Main Board of the Stock Exchange. He was an Independent Non-executive Director of KFM Kingdom Holdings Limited (HK.3816) and Ta Yang Group Holdings Limited (HK.1991), both of which are listed on the main board of the Stock Exchange, from September 2015 to February 2016 and from May 2007 to September 2017 respectively. Mr. YEUNG received a Bachelor's degree in Business Administration from the University of Hong Kong and a master's degree in Professional Accounting with distinction from Hong Kong Polytechnic University. He is a fellow member of the Institute of Chartered Accountants in England and Wales, the Hong Kong Institute of Certified Public Accountants and the Association of Chartered Certified Accountants and a Senior International Finance Manager of the International Financial Management Association. Mr. YEUNG worked at a major international accounting firm for over 10 years and then worked for various Hong Kong listed companies as the financial controller and company secretary. He possesses extensive experience in auditing, corporate restructuring and corporate finance.

**謝秋野先生**，為本公司獨立非執行董事。謝先生於2014年5月16日加入本集團。謝先生現任電力規劃設計總院院長、黨委書記，電力規劃總院有限公司董事長(執行董事)、黨委書記。歷任西北電力設計院副總工程師、副院長，中國電力建設工程諮詢公司副總經理兼總工程師，中國電力工程顧問集團公司發電工程分公司經理，中南電力設計院院長，及電力規劃設計總院常務副院長。謝先生獲得重慶大學熱能專業學士學位，是教授級高級工程師及全國勘察設計大師。

**楊志達先生**，為本公司獨立非執行董事。楊先生於2017年8月8日加入本集團。楊先生現為香港獨立非執行董事協會的常務副會長及常務理事、青年專業聯盟會計界副會長、香港酒業總商會副會長、香港會計師專業協會之大中華發展工作委員會委員及香港執業會計師。彼亦為安踏體育用品有限公司(HK.2020)、博耳電力控股有限公司(HK.1685)及時代集團控股有限公司(HK.1023)的獨立非執行董事。彼自2015年9月至2016年2月及2007年5月至2017年9月擔任均於聯交所主板上市的KFM金德控股有限公司(HK.3816)及大洋集團控股有限公司(HK.1991)的獨立非執行董事。楊先生獲香港大學工商管理學士學位以及獲香港理工大學專業會計碩士學位(甲級)。彼為英格蘭及威爾斯特許會計師公會、香港會計師公會及英國特許公認會計師公會資深會員及國際財務管理協會的高級國際財務管理師。楊先生於一間主要國際會計師行任職超逾十年，其後曾任多間香港上市公司的財務總監兼公司秘書。彼具備核數、企業重組及企業融資服務方面的豐富經驗。

# DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

## 董事、監事及高級管理人員(續)

### BOARD OF SUPERVISORS

The Board of Supervisors currently consists of five members (the “**Supervisors**”). Save for the employee representative Supervisors that are elected by employees, Supervisors are elected by the shareholders of the Company (the “**Shareholders**”). Supervisors serve a term of three years after which they may be re-elected or re-appointed. The responsibilities of the Board of Supervisors include, amongst others, reviewing and verifying the financial report, business report and profit distribution plan prepared by the Board of Directors, and (upon doubt, if any) appointing certified public accountants and certified public auditors to re-examine the financial information of the Company; supervising the financial activities of the Company; supervising the performance of Directors, president and other senior management and safeguarding against any breach of the law, administrative regulations and provisions of the Articles of Association in the course of discharging their duties; requiring Directors, president and senior management to correct actions that may harm the interests of the Company and exercising other rights granted to them by the Articles of Association.

### SUPERVISORS

The following table sets out certain information relating to the Supervisors of the Company. The members of the third session of the Board of Supervisors were re-elected and appointed at the first 2017 extraordinary general meeting of the Company held on 8 August 2017. The current term for all the Supervisors will expire on 7 August 2020.

### 監事會

監事會現時由5名成員組成(「**監事**」)。除職工代表監事由僱員選出外，監事均由本公司股東(「**股東**」)選出，任期三年，如獲重選或重新委任可予連任。監事會的職責包括：審閱及核實董事會編製的財務報告、業務報告及利潤分配方案；並(如有疑問)委任執業會計師及執業核數師重新審查本公司的財務資料；監察本公司的財務活動；監察董事、總經理及其他高級管理人員的表現，及監察他們於執行職務時的行為有否違反法律、行政規定及公司章程；要求董事、總經理及高級管理人員糾正有損本公司利益的行動；以及行使本公司的《公司章程》賦予他們的其他權力。

### 監事

下表列示有關本公司監事的若干信息。本公司於2017年8月8日召開的2017年第一次臨時股東大會上進行第三屆監事會成員的重選及委任。本公司本屆所有監事的任期將於2020年8月7日屆滿。

Name 姓名	Age 年齡	Position 職位	Date of Joining the Group 加入日期	Date of Appointment/ Election/Re-appointment 委任/獲選/重選日期
Mr. LUAN Baoxing 樂寶興先生	51	Chairman of the Board of Supervisors 監事會主席	9 September 2016 2016年9月9日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. XU Xingzhou 許興洲先生	56	Supervisor 監事	16 May 2011 2011年5月16日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. YANG Xiangbin 楊向斌先生	52	Supervisor 監事	9 September 2016 2016年9月9日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Ms. HE Lili 何麗麗女士	42	Employee Representative Supervisor 職工代表監事	18 March 2014 2014年3月18日	Re-appointed on 8 August 2017 2017年8月8日獲重選
Mr. LI Wei 李偉先生	44	Employee Representative Supervisor 職工代表監事	10 March 2008 2008年3月10日	Re-appointed on 8 August 2017 2017年8月8日獲重選



## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)



**Mr. LUAN Baoxing** is the Chairman of the Board of Supervisors. Mr. LUAN joined the Group on 9 September 2016. Mr. LUAN serves as the officer of the financial management department of Guodian Group, and as the director of China Guodian Capital Holdings Ltd., director of China Longyuan Power Group Corporation Limited (HK.0916), the director of Guodian Fuels and supervisor of Guodian Shandong Power concurrently. Mr. LUAN successively served as the deputy chief of the finance and fund department and the chief of the accounting cost division of the financial department of Heilongjiang Electric Power Company; the deputy chief and the chief of accounting cost division of Northeast Electric Power Group; the deputy director general of the financial department of State Power Corporation Northeast Branch; associate chief accountant and the director of the financial department of Chongqing Electric Power; the deputy director of the finance and property department, the deputy director and the director of the capital operation and property management department of Guodian Group; the general manager and the deputy secretary of leading party group of Guodian Capital Holding; chairman, the general manager and the deputy secretary of leading party group of Guodian Finance. Mr. LUAN obtained a bachelor's degree in accounting from Heilongjiang University, a degree of MBA from Harbin Institute of Technology. Mr. LUAN is a senior accountant and Certified Public Accountant.

**Mr. XU Xingzhou** is a Supervisor of the Company. Mr. XU joined the Group on 16 May 2011. Mr. XU serves concurrently as the director of the human resource department of Guodian Group. Mr. XU served successively as the deputy director and the director of the salary and insurance division of the human resource department of State Power Corporation; the deputy head of the human resources department of Guodian Group; the chairman of the board of supervisors of Guodian Suqian Company and Guodian Kaiyuan Company; and the head of the Social Insurance Center of Guodian Group. Mr. XU obtained a bachelor's degree in management engineering from Jilin University. Mr. XU is a senior economist.

**樂寶興先生**，為本公司監事會主席。樂先生於2016年9月9日加入本集團。樂先生同時擔任國電集團財務管理部主任，兼任國電資本控股有限公司董事、龍源電力集團股份有限公司(HK.0916)董事、國電燃料有限公司董事、國電山東電力有限公司監事。樂先生歷任黑龍江省電力公司財產資金處副處長、財務部會計成本處處長，中國東北電力集團公司財務部會計成本處副處長、處長，國家電力公司東北公司財務部副主任，重慶電力公司副總會計師兼財務部主任，國電集團財務產權部副主任、資本運營與產權管理部副主任、資本運營與產權管理部主任，國電資本控股有限公司總經理、黨組副書記，國電財務有限公司董事長、總經理、黨組副書記。樂先生畢業於黑龍江大學會計學專業，獲得學士學位；亦畢業於哈爾濱工業大學MBA專業，獲得碩士學位。樂先生是高級會計師及註冊會計師(CPA)。

**許興洲先生**，為本公司的監事。許先生於2011年5月16日加入本集團。許先生同時擔任國電集團人力資源部主任。許先生歷任國家電力公司人力資源部工資保險處副處長及處長，國電集團人力資源部副主任，國電宿遷公司及國電開遠公司監事會主席，國電集團社會保險中心主任。許先生畢業於吉林大學管理工程學專業，獲得學士學位。許先生是高級經濟師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. YANG Xiangbin** is a Supervisor of the Company. Mr. YANG joined the group on 9 September 2016. Mr. YANG serves as the director of Capital and Assets Management Department of Guodian Group and the director of China Longyuan Power concurrently. Mr. YANG served as the chief of the budget division of the financial department of Heilongjiang Electric Power Co., Ltd.; the deputy chief, the chief general of the budget division, the chief and the deputy director general of the finance and property department, and the deputy director general of the financial management department; the secretary of party committee, the director and the deputy general manager of Inner Mongolia Pingzhuang Coal Industry (Group) Co., Ltd.; the deputy chairman of Pingzhuang Energy (SZ.000780). Mr. YANG graduated from Harbin Electric Power College majoring in financial accounting of electric power industry and then graduated from Northeast Electric Power College majoring in management engineering. He also obtained a master's degree in business administration from Open University of Hong Kong. Mr. YANG is a senior accountant and Certified Public Accountant.

**Ms. HE Lili** is an employee representative Supervisor of the Company. Ms. HE joined the Group on 18 March 2014. Ms. HE serves as a member of the Party Committee and the Secretary of Discipline Inspection Commission of the Company. Ms. HE served as a technician of rubber plant production division of Sinopec Beijing Yanshan Company; the deputy head of politics and work department and the head of the human resources department of Guodian Group, and the chairman of the labor union of the Company. Ms. HE obtained a degree of MBA from Beijing University of Aeronautics and Astronautics. Ms. HE is a senior administration engineer and a senior economist.

**Mr. LI Wei** is an employee representative Supervisor of the Company. Mr. LI joined the Group on 10 March 2008. Mr. LI serves concurrently as the deputy general economic manager and the director of the audit department of the Company. Mr. LI served successively as the deputy director of the audit department and the deputy director of the financial department of China National Electronic Materials Corporation; the deputy chief accountant of United Power; and the deputy director of the supervision and audit department and the director of supervision department (disciplinary inspection office) of the Company. Mr. LI obtained a bachelor's degree in economics from Hangzhou Institute of Electronics Engineering and a degree of MBA from Beijing University of Aeronautics and Astronautics. Mr. LI is a senior accountant.

**楊向斌先生**，為本公司的監事。楊先生於2016年9月9日加入本集團。楊先生同時擔任國電集團資本與資產管理部主任，兼任龍源電力董事。楊先生歷任黑龍江省電力有限公司財務部預算處處長，國電集團財務產權部預算處副處長、財務產權部預算處處長、財務產權部副主任，財務管理部副主任，內蒙古平莊煤業(集團)有限責任公司黨委書記、董事、副總經理，內蒙古平莊能源股份有限公司(SZ.000780)副董事長。楊先生畢業於哈爾濱電力學院電力工業財務會計專業，後畢業於東北電力學院管理工程專業，亦於香港公開大學工商管理專業取得工商管理碩士學位。楊先生是高級會計師及註冊會計師(CPA)。

**何麗麗女士**，為本公司的職工代表監事。何女士於2014年3月18日加入本集團。何女士同時擔任本公司黨委委員、紀委書記。何女士歷任中石化北京燕山石化公司橡膠廠生產技術處技術員，國電集團政治工作部綜合處副處長、人力資源部綜合處處長，本公司工會主席。何女士畢業於北京航空航天大學工商管理專業，獲得碩士學位。何女士是高級政工師及高級經濟師。

**李偉先生**，為本公司的職工代表監事。李先生於2008年3月10日加入本集團。他同時擔任本公司副總經濟師兼審計部主任。李先生歷任中國電子物資總公司審計處副處長及財務部副總經理，聯合動力副總會計師，本公司審計部副經理、監察審計部副經理、監察部(紀檢辦)經理。李先生畢業於杭州電子科技大學會計專業，獲得經濟學學士學位；亦畢業於北京航空航天大學工商管理專業，獲得碩士學位。李先生是高級會計師。



# DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

## 董事、監事及高級管理人員(續)

### SENIOR MANAGEMENT

### 高級管理人員

The following table sets out certain information relating to the senior management of the Company.

下表載列有關本公司高級管理人員的若干資料。

Name 姓名	Age 年齡	Current Position 現任職位	Date of Joining the Group 加入日期
Mr. CHEN Dongqing 陳冬青先生	52	Secretary of Party Committee, Chairman of the Board of Directors 黨委書記、董事長	29 March 2016 2016年3月29日
Mr. ZHANG Jun 張軍先生	54	Deputy Secretary of the Party Committee, President 黨委副書記、總經理	September 2004 2004年9月
Mr. TANG Chaoxiong 唐超雄先生	50	Member of the Party Committee, Vice President and Chief Accountant 黨委委員、副總經理及總會計師	12 October 2015 2015年10月12日
Mr. ZHANG Xiaodong 張曉東先生	42	Member of the Party Committee, Vice President and Chairman of the Labour Union 黨委委員、副總經理、工會主席	1 November 2010 2010年11月1日
Mr. CAI Zhaowen 蔡兆文先生	49	Member of the Party Committee, Vice President, Secretary of the Board of Directors and the Joint Company Secretary 黨委委員、副總經理、董事會秘書及聯席公司秘書	18 March 2014 2014年3月18日
Ms. HE Lili 何麗麗女士	42	Member of the Party Committee and Secretary to the Disciplinary Committee 黨委委員、紀委書記	18 March 2014 2014年3月18日
Mr. TANG Jian 唐堅先生	47	Member of the Party Committee, Vice President 黨委委員、副總經理	12 October 2015 2015年10月12日
Mr. CHU Jingchun 褚景春先生	41	Member of the Party Committee, Vice President 黨委委員、副總經理	13 July 2011 2011年7月13日
Mr. LI Caiyun 李彩雲先生	49	Member of the Party Committee, Vice President 黨委委員、副總經理	15 July 2014 2014年7月15日

**Mr. CHEN Dongqing** – Please see details under the section headed “Board of Directors” above.

**陳冬青先生** – 請參閱上文「董事會」部份相關內容。

**Mr. ZHANG Jun** – Please see details under the section headed “Board of Directors” above.

**張軍先生** – 請參閱上文「董事會」部份相關內容。

**Mr. TANG Chaoxiong** – Please see details under the section headed “Board of Directors” above.

**唐超雄先生** – 請參閱上文「董事會」部份相關內容。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. ZHANG Xiaodong** is a member of the Party Committee, a vice president and the chairman of the labor union of the Company. Mr. ZHANG also serves as the chairman of the board of directors of Guodian Zhishen. Mr. ZHANG joined the Group on 1 November 2010. Mr. ZHANG served as project principal of Energy Conservation Information Dissemination Center and project principal of the project construction division of the Information Center of the State Economic and Trade Commission; the deputy director of research and consulting division of the SASAC's Information Center and director of the application and development division of the SASAC's Information Center. Mr. ZHANG obtained a bachelor's degree in electric technology from Taiyuan Heavy Machinery Institute, and a degree of MBA from Beijing University of Aeronautics and Astronautics. Mr. ZHANG is a senior engineer.

**Mr. CAI Zhaowen** is a member of the Party Committee, a deputy general manager, board secretary of the Company and joint secretary of the Company. Mr. CAI also serves as Chairman of the board of supervisors of Longyuan Technology. Mr. CAI joined the group on 18 March 2014 and was appointed as the joint secretary of the Company on 30 March 2017. Mr. CAI successively served as the deputy general manager of Yichun Xing'anling Wind Power Co., Ltd., Yilan Longyuan Wind Power Co., Ltd., and Huanan Longyuan Wind Power Co., Ltd; the director of the planning and development department and a general manager assistant and the director of planning and development department of Longyuan Power. Mr. CAI graduated from Tsinghua University, obtained a bachelor's degree with a double major in hydraulic architecture and environmental engineering, and a degree of MBA. Mr. CAI is a senior engineer.

**Ms. HE Lili** – Please see details under the section headed "Board of Supervisors" above.

**Mr. TANG Jian** is a member of the Party Committee, a vice president of the Company. Mr. TANG serves as the secretary of the Party Committee, and the chairman of Longyuan Environmental. Mr. TANG joined the Group on 12 October 2015. Mr. TANG served as the vice director of the power generation department of the Yangzhou No. 2 Power Plant in Jiangsu; the vice director of preparation for the production department and director of the operation department and director of business planning department of Guodian Changzhou Power Generation Co. Ltd.; a member of the Party Committee and the vice general manager of Guodian Bengbu Power Generation Co., Ltd.; the deputy head of the Coal-fired Power Office, head of the Coal-fired Power Office and head of the General Office of the Engineering & Construction Department of Guodian Group; the general manager and the deputy secretary of the Party Committee of Beijing Guodian Longyuan Environmental Engineering Co., Ltd.. Mr. TANG obtained a bachelor's degree in power plant thermal energy and power engineering from China University of Mining and Technology. Mr. TANG is a senior engineer.

**張曉東先生**，為本公司黨委委員、副總經理、工會主席。張先生目前還兼任國電智深董事長。張先生於2010年11月1日加入本集團。張先生歷任國家經貿委節能信息傳播中心項目負責人以及國家經貿委信息中心項目建設處項目負責人，國資委信息中心研究諮詢處副處長、國資委信息中心應用開發處處長。張先生畢業於太原重型機械學院，獲得電氣技術學士學位；亦畢業於北京航空航天大學工商管理專業，獲得碩士學位。張先生是高級工程師。

**蔡兆文先生**，為本公司黨委委員、副總經理、董事會秘書及聯席公司秘書。蔡先生目前還兼任龍源技術監事會主席。蔡先生於2014年3月18日加入本集團，於2017年3月30日獲委任為本公司的聯席公司秘書。蔡先生歷任伊春興安嶺風力發電有限公司、依蘭龍源風力發電有限公司、樺南龍源風力發電有限公司常務副總經理，龍源電力計劃發展部主任，龍源電力總經理助理兼規劃發展部主任。蔡先生畢業於清華大學，獲得水工建築、環境工程專業雙學士學位，亦獲得工商管理專業碩士學位。蔡先生是高級工程師。

**何麗麗女士** – 請參閱上文「監事會」部份相關內容。

**唐堅先生**，為本公司黨委委員、副總經理。唐先生目前還兼任龍源環保黨委書記、董事長。唐先生於2015年10月12日加入本集團。唐先生歷任江蘇揚州第二發電廠發電部副主任，國電常州發電有限公司生產準備部副主任、運行部主任、經營計劃部主任，國電蚌埠發電有限公司黨委委員、副總經理，國電集團工程建設部火電處副處長、火電處處長、綜合處處長，北京國電龍源環保工程有限公司總經理、黨委副書記。唐先生畢業於中國礦業大學電廠熱能動力工程專業，獲得學士學位。唐先生是高級工程師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. CHU Jingchun** is a member of the Party Committee and the deputy general manager of the Company. Mr. CHU concurrently serves as the chairman, the president and the vice secretary of the Party Committee of United Power and the chairman of Longyuan Electrical. Mr. CHU joined the Group on 13 July 2011. Mr. CHU served as the deputy head and the head of the Admissions Office of Students Affairs Division, the director of the Liaison Office of the board of directors, the deputy dean of the Training College, the vice director of the Party Committee and the President Office, the director of the Council office, the director of Alumni Association Office, the vice director (in charge of relevant work) and the director of the University-enterprise cooperation Office of North China Electric Power University (Beijing); the manager of General Management Department of Guodian Technology & Environment Group Corporation Limited, the secretary of the Party Committee and vice president of Guodian United Power Technology Co., Ltd., the general manager assistant and a member of the Party Committee of Guodian Technology & Environment Group Corporation Limited. Mr. CHU obtained a master's degree in technology economy and management from the School of Economics and Management of Beijing University of Aeronautics and Astronautics and also obtained a doctor's degree in technology economy and management from North China Electric Power University. Mr. CHU is a senior engineer.

**Mr. LI Caiyun** is a member of the Party Committee and the deputy general manager of the Company. Mr. LI serves as the chairman, the general manager and the deputy secretary of the Party Committee of Longyuan Engineering. Mr. LI joined the Group on 15 July 2014. Mr. LI successively served as the deputy officer of construction site of Jiangsu Electric Power Construction No. 3 Engineering Company; the manager of architecture company; the officer and the deputy chief engineer of the engineering department of Guodian Changzhou Generating Co., Ltd.; the deputy chief engineer and the deputy general manager of Guodian Taizhou Generation Co., Ltd.; the deputy chief and chief of the engineering department of bidding center of Guodian Group; the general manager assistant, a member of the Party Group of Guodian Technology & Environment Group Corporation Limited. Mr. LI obtained a bachelor's degree in industrial and civil construction from Wuhan Institute of Hydraulic and Electric Engineering. Mr. LI is a senior engineer.

### JOINT COMPANY SECRETARIES

**Mr. CAI Zhaowen** – Please see details under the section headed “Senior Management” above.

**Ms. MOK Ming Wai** is the joint company secretary of the Company. Ms. MOK was appointed as the joint company secretary of the Company on 29 November 2016. Ms. MOK is the director and the head of Listing Services Department of TMF Hong Kong Limited. Ms. MOK has experienced as company secretary for over 20 years. Ms. MOK is a fellow member of the Hong Kong Institute of Chartered Secretaries and the Institute of Chartered Secretaries and Administrators in the United Kingdom.

**褚景春先生**，為本公司黨委委員、副總經理。褚先生目前還兼任聯合動力董事長、總經理、黨委副書記，龍源電氣董事長。褚先生於2011年7月13日加入本集團。褚先生歷任華北電力大學(北京)學生處招辦副主任、招辦主任，董事會聯絡辦公室主任，培訓學院副院長，黨委辦公室副主任兼校長辦公室副主任、理事會工作辦公室主任、校友會工作辦公室主任，校企合作辦公室副主任(主持工作)、校企合作辦公室主任；國電科技環保集團股份有限公司綜合管理部經理，國電聯合動力技術有限公司黨委書記兼副總經理，國電科技環保集團股份有限公司總經理助理、黨組成員。褚先生畢業於北京航空航天大學經管學院技術經濟及管理專業，獲得碩士學位，亦畢業於華北電力大學技術經濟及管理專業，獲得博士學位。褚先生是高級工程師。

**李彩雲先生**，為本公司黨委委員、副總經理。李先生目前還兼任龍源工程董事長、總經理、黨委副書記。李彩雲於2014年7月15日加入本集團。李先生歷任江蘇電建三公司建築工地副主任、建築專業公司經理，國電常州發電有限公司工程部主任、副總工程師，國電泰州發電有限公司副總工程師、副總經理，國電集團招標中心副處長、招標中心工程處處長，國電科技環保集團股份有限公司總經理助理、黨組成員。李先生畢業於武漢水利電力學院工民建專業，獲得學士學位。李先生是高級工程師。

### 聯席公司秘書

**蔡兆文先生** – 請參閱上文「高級管理人員」部份相關內容。

**莫明慧女士**，為本公司聯席公司秘書。莫女士於2016年11月29日獲委任為本公司的聯席公司秘書。莫女士為達盟香港有限公司董事兼上市公司服務部主管。莫女士擁有逾20年的公司秘書工作經驗，並為香港特許秘書公會及英國特許秘書及行政人員工會資深會員。



# REPORT OF THE BOARD OF DIRECTORS

## 董事會報告

The Board of Directors hereby presents to Shareholders this Annual Report and the audited financial statements for 2017 (the “**Financial Statements**”).

### SHARE CAPITAL

As of 31 December 2017, the total issued share capital of the Company was RMB6,063,770,000, divided into 6,063,770,000 shares of RMB1.0 each, including 4,754,000,000 domestic shares and 1,309,770,000 H shares. Details of movement in the share capital of the Company during the year are set out in Note 36 to the Financial Statements.

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

Neither the Company nor any of its subsidiaries purchased, sold or redeemed any of the Company's listed securities during the year ended 31 December 2017.

### PRE-EMPTIVE RIGHTS

According to the Articles of Association or the PRC law, there are no provisions for pre-emptive rights requiring the Company to offer new shares to the existing Shareholders of the Company in proportion to their shareholdings.

### PRINCIPAL BUSINESS

The Company is principally engaged in (1) the environmental protection and energy conservation solutions business, and (2) the renewable energy equipment manufacturing and service business. The Company offers diversified products and services and uses diversified business models in its business operations. Details of subsidiaries and associates of the Company are set out in Notes 18 and 19 to the Financial Statements.

### RESULTS

The annual results of the Company and its subsidiaries for the year ended 31 December 2017 and the statement of financial position of the Company and its subsidiaries as of 31 December 2017 are set out in the audited Financial Statements of this Annual Report.

### BUSINESS REVIEW

A discussion and analysis on results performance during the year and material factors underlying its results and financial position and business prospect of the Group are set out in the Management's Discussion and Analysis section of this Annual Report. Details of financial risk management of the Group are set out in Notes 37 to the Financial Statements.

本公司董事會現向股東提呈其於2017年的本年度報告及經審核財務報表(「**財務報表**」)。

### 股本

於2017年12月31日，本公司已發行股本總數為人民幣6,063,770,000元，分為6,063,770,000股每股面值人民幣1.0元的股份，其中內資股4,754,000,000股，H股1,309,770,000股。本公司股本於本年度的變動詳情載於財務報表附註36。

### 購買、出售或贖回本公司上市證券

本公司或其任何附屬公司於截至2017年12月31日止年度未購買、出售或贖回本公司任何上市證券。

### 優先購股權

根據《公司章程》或中國法律並無存在要求本公司按現有股東持股比例向其發售新股的優先購股權的規定。

### 主營業務

本公司的主營業務為(1)環保及節能解決方案業務，以及(2)可再生能源設備製造及服務業務。本公司供應多元化的產品及服務，並於開展業務時使用多樣化的業務模式。本公司附屬公司及聯營公司的詳情分別載於財務報表附註18及19。

### 業績

本公司及其附屬公司截至2017年12月31日止年度的業績以及本公司及其附屬公司於2017年12月31日的財務狀況載於本年報的經審核財務報表。

### 業務審視

有關本集團本年度的業績表現、影響業績、財務狀況的重要因素及業務展望的討論及分析，載於本年報的「管理層討論與分析」一節。有關本集團財務風險管理的詳情載於財務報表附註37。



## RELATIONSHIP WITH THE CONNECTED PERSONS OF PRINCIPAL BUSINESS

## 與主要業務有關人士的關係

### Employees

### 員工

As of 31 December, 2017, the Group had 6,881 employees in total. In accordance with the applicable national laws and regulations and the applicable regulations of the Guodian Group, the Group has established a clear and transparent human resources (“HR”) system, including 28 HR rules and regulations at respective levels, in order to protect the legitimate rights and interests of the employees. The Group has established and optimized the management system of total salary based on market value and performance evaluation. The remuneration of employees is composed of three parts of basic salary, performance salary and reward salary. Performance payment is made with reference of the Company’s financial results and the performance evaluation on the individual employee, and reward salary is determined according to the completion of the Company’s annual key work. The Group has strictly complied with the applicable national and local government policies and regulations for the payment of the respective social insurance premiums, housing funds, corporate annuities, etc., for the employees. The Group has attached great importance to the selection, training, incentive and development of talents and, concentrated all kinds of superior resources toward the high-potential and high-performance employees.

於2017年12月31日，本集團共有員工6,881人。依據國家相關法律法規及國電集團相關規定，本集團建立了清晰透明的人力資源制度，包括各級人力資源制度共28項，切實保障了員工的合法權益。本集團建立和完善了以市場價值為導向、以績效考核為基礎的工資總額管理體系，員工薪酬由基本工資、績效工資和獎勵工資三部份組成，績效工資依據公司業績及績效考核情況確定，獎勵工資依據公司年度重點工作完成情況確定，並嚴格按照國家和地方政府有關政策法規為員工繳納各項社會保險、住房公積金、企業年金等。本集團亦十分重視人才的選拔、培養、激勵和發展工作，集中各類優勢資源向高潛力、高績效員工傾斜。

### Suppliers

### 供應商

The Group requires its subsidiaries to learn advanced experience in the industry, optimize the development process of qualified suppliers, introduce excellent suppliers of leading enterprises in the industry, speed up the verification and probation process of newly-developed suppliers, develop a reasonable development plan, and reasonably plan the procurement proposal, and make assessment and evaluation of suppliers from time to time.

本集團要求附屬公司學習行業內先進經驗，優化合格供應商開發流程，引進行業內排名靠前的企業的優秀供應商，加快新開發供應商驗證試用環節，制定合理的開發計劃，亦不時對供應商作出考核和評價。

## COMPLIANCE WITH LAWS

## 法律遵守情況

The Group requires its subsidiaries to strictly abide by national laws and local regulations and industry standards. The relevant departments of the Group are responsible for monitoring, supervising and inspecting the management and implementation of laws and regulations of the subsidiaries on a regular basis and from time to time and assessing their implementation and compliance in these areas. During the year 2017, the Company was not aware of any event that had materially violated or had not been in compliance with the laws and regulations applicable to the Group and which had a significant impact on the Group’s business and operations.

本集團要求附屬公司嚴格遵守國家法律及各地規章、各行業準則。本集團相關部門負責定期及不時監測、監督及檢查各附屬公司的法律法規管理及執行情況，且評估其於該等領域的執行及遵守情況。於2017年年內，本公司並不知悉發生重大違反或不遵守本集團適用的法律法規，且對本集團業務及經營造成重要影響的事件。



## ENVIRONMENTAL POLICIES

As a corporation providing environmental protection, energy conservation and renewable energy equipment and services, the Group has strived to attach importance to the national environmental protection policies and fulfilled its social responsibility from the perspective of the corporate survival and development. The Group has strictly adopted the Environmental Protection Law of the People's Republic of China and the applicable industrial and local environmental protection rules and regulations of each subsidiary, strictly implemented the environmental protection requirements of projects, and ensured the design, construction and production of the environmental protection facilities and the main works, so as to achieve efficient operation and emission according to applicable standards.

As China pays more attention to environmental protection, governments at all levels have strengthened the supervision and surveillance of the environmental protection facilities. The frequencies of inspection vary depending on the business and location of the subsidiaries. Take Longyuan Environmental Protection, a subsidiary of the Group, as an example. In 2017, the frequency which the project companies were inspected by the environmental protection authorities at all levels was on average about 16 times per year. In order to ensure the facilities for the desulphurisation and denitrification projects were operated stably and met the discharge standards, a series of effective measures were adopted, including the construction of the SIS system and safety control system and the construction of the HSE system of the National Occupational Safety Association (NOSA), carrying out the standardized construction of the operation management, carrying out the regular random check of the equipment non-leakage treatment, implementing the full coverage of technical supervision, strengthening the control of the field operation indicators, continuing to strengthen the standardization rectification of safety and civilization, thus improving the level of standardization in the safety and operation management of the project company in an all-round manner. In 2017, there was no environmental violation that had a significant impact on the Group.

As at 31 December 2017, there was no event that had a significant impact on the Group's operational, financial or business prospects. The above discussion forms part of this report of the Board of Directors.

## DIVIDEND

The Board of Directors does not recommend the payment of a final dividend for the year ended 31 December 2017.

## 環保政策

作為一家提供環保節能及可再生能源設備及服務的企業，本集團一貫從企業生存和發展的高度，重視國家的環保政策，履行企業的社會責任。嚴格落實《中華人民共和國環保法》及各附屬公司適用的行業及地方環保制度及規定，嚴格執行項目的環保要求，確保環保設施和主體工程同時設計、施工、投產，實現高效運行和達標排放。

隨着國家對環境保護的重視程度逐漸增加，各級政府加強了對環保設施的監管和監察力度，根據附屬公司的經營項目和所處地域的不同，接受檢查的頻次不盡相同。以附屬公司龍源環保為例，2017年各項目公司接受各級環保部門檢查頻次平均約為每年16次。為保證各脫硫脫硝項目設施穩定運行，達標排放，採取了一系列有效的舉措，進行了SIS系統及安全管控系統建設及國家職業安全協會(NOSA)安健環體系建設，推行運行管理標準化建設，開展設備無滲漏治理常態化抽查，落實技術監督全覆蓋，加強現場運行指標管控，繼續加強安全文明標準化整治，全面提升了項目公司安全、運行管理工作規範化水平。本年度未發生對本集團有重大影響的環境違規事件。

截至2017年12月31日止，未發生對本集團營運、財務或經營前景產生重大影響的事件。以上討論屬本董事會報告的一部分。

## 股息

董事會不建議派發截至2017年12月31日止年度之末期股息。



## PROPERTY, PLANT AND EQUIPMENT

Details of the movements in property, plant and equipment of the Company and its subsidiaries during the year are set out in Note 13 to the Financial Statements.

## RESERVES

Details of the movements in reserves of the Company during the year are set out in Note 36(a) to the Financial Statements, among which, details of reserves available for distribution to the Shareholders as of 31 December 2017 are set out in Note 36(f) to the Financial Statements.

## BANK LOANS AND OTHER BORROWINGS

Details of bank loans and other borrowings of the Company and its subsidiaries as of 31 December 2017 are set out in Note 29 to the Financial Statements.

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

The relevant information of the Directors, Supervisors and senior management of the Company at the date of this Annual Report, such as name, position in the Company and date of joining/appointment/re-election/resignation, is set out in the Directors, Supervisors and Senior Management section of this Annual Report.

The Company has received, from each of the independent non-executive Directors, an annual confirmation of his independence pursuant to Rule 3.13 of the Listing Rules and considers that all of the independent non-executive Directors are independent of the Company.

## BIOGRAPHIES OF DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

Biographical details of Directors, Supervisors and senior management are set out in the Directors, Supervisors and Senior Management section of this Annual Report.

## 物業、廠房及設備

本公司及其附屬公司物業、廠房及設備於本年度的變動詳情載於財務報表附註13。

## 儲備

本年度內本公司儲備的變動詳情載於財務報表附註36(a)，其中截至2017年12月31日止可供分配予股東的儲備詳情載於財務報表附註36(f)。

## 銀行貸款及其他借款

關於本公司及其附屬公司於2017年12月31日之銀行貸款及其他借款的詳情載於財務報表附註29。

## 董事、監事和高級管理人員

於本年報日期，本公司董事、監事和高級管理人員的有關資料，如姓名、本公司職位及加入／委任／重選／辭任日期，載於本年報的「董事、監事及高級管理人員」一節。

本公司已收到每名獨立非執行董事根據香港聯合交易所有限公司證券上市規則第3.13條就其各自的獨立性出具的年度確認書，並認為每名獨立非執行董事均獨立於本公司。

## 董事、監事和高級管理人員簡歷

董事、監事和高級管理人員的簡歷詳情載於本年報的「董事、監事及高級管理人員」一節。

## SERVICE CONTRACTS OF THE DIRECTORS AND SUPERVISORS

Each of the executive Directors and Supervisors of the Company has entered into a service contract with the Company on 8 August 2017, which is preliminarily for a term of three years commencing from 8 August 2017. Each of the non-executive Directors and independent non-executive Directors has entered into a letter of appointment with the Company on 8 August 2017, for a term of three years, with a one-year automatic renewal clause.

Save as disclosed above, none of the Directors or Supervisors has entered into a service contract with the Company which is not determinable by the Company within one year without payment of compensation, other than statutory compensation.

## PERMITTED INDEMNITY PROVISIONS

Pursuant to the Articles of Association, every Director, Supervisor and senior management of the Company shall be entitled to be indemnified out of the assets of the Company against all losses or liabilities which he/she may sustain or incur in relation to the execution of the duties of his/her office or otherwise in relation thereto. Besides, the Company has arranged appropriate insurance for the Directors, Supervisors and senior management in respect of possible legal actions.

## DIRECTORS' AND SUPERVISORS' REMUNERATION

Details of the remuneration of the Directors and Supervisors of the Company are set out in Note 9 to the Financial Statements.

Details of the remuneration of five Individuals with highest emoluments of the Company are set out in Note 10 to the Financial Statements.

## INTERESTS OF DIRECTORS AND SUPERVISORS IN CONTRACTS, TRANSACTIONS OR ARRANGEMENTS

At any time during the year of 2017, there was no contract of significance, transaction or arrangement related to the Group's business in which the Company and its subsidiaries was a party, and in which a Director or Supervisor or an entity connected with a Director or a Supervisor had a material interest, either directly or indirectly, which subsisted during the year or at the end of the year.

## 董事及監事的服務合約

本公司各執行董事及監事已於2017年8月8日與本公司訂立了服務合約，各服務協議自2017年8月8日起初步為期三年。而各非執行董事及獨立非執行董事亦已於2017年8月8日與本公司訂立了委任函，為期三年，委任函包含自動延期一年的條款。

除上文所披露者外，概無董事或監事與本公司訂立本公司不可於一年內不付賠償(法定賠償除外)而終止的服務合約。

## 獲准許的彌償條文

根據《公司章程》，本公司每名董事、監事及高級管理人員在其執行職責或在其他方面與此有關之情況下可能蒙受或產生之所有損失或責任，有權獲得從本公司之資產中撥付彌償。此外，本公司已就其可能面對之有關法律行動安排適當的董事、監事及高級管理人員保險。

## 董事及監事的酬金

本公司董事及監事酬金的詳情載於財務報表附註9。

本公司的五位最高薪酬人士的薪酬詳情載於財務報表附註10。

## 董事及監事於合約、交易或安排的權益

於2017年度內的任何時間，本公司及其附屬公司概無直接或間接參與訂立與董事或監事或其有關連的實體有重大利益關係、與本集團業務有關、且於本年度內或結束時仍然有效的重要合約、交易或安排。



## INTERESTS OF DIRECTORS IN COMPETING BUSINESS

### 董事於競爭業務的權益

During the year of 2017, save as disclosed below, none of the Directors and their associates had any competing interests in any business which competed, or was likely to compete, either directly or indirectly, with the business of the Group:

於2017年度內，除下文所披露者外，概無董事及其聯繫人於任何與本集團業務直接或間接構成競爭或可能構成競爭的業務中擁有任何競爭權益：

Name of Directors 董事姓名	Position in the Company 本公司職位	Other Interests 其他權益
Mr. WANG Zhongqu 王忠渠先生	Non-executive Director 非執行董事	Safety Production Supervisor and the head of Work Safety Division of Guodian Group 國電集團安全生產總監兼安全生產部主任
Mr. ZHANG Wenjian 張文建先生	Non-executive Director 非執行董事	Head of Technology and General Industry Division of Guodian Group 國電集團科技與綜合產業部主任
Mr. GU Yuchun 顧玉春先生	Non-executive Director 非執行董事	Vice President of Guodian Power 國電電力副總經理

## INTERESTS AND SHORT POSITIONS OF THE DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT IN THE SHARES, UNDERLYING SHARES AND DEBENTURES

### 董事、監事及高級管理人員於股份、相關股份及債權證的權益及淡倉

As of 31 December 2017, Mr. YAN Andrew Y., a non-executive Director of the Company, was interested in 288,200,000 shares of the Company. Please refer to "Substantial Shareholders' Interests in Shares" for more information. Save as disclosed above, none of the Directors, Supervisors and senior management of the Company had any interests or short positions in the shares, underlying shares and debentures of the Company or any of its associated corporations (within the meaning of Part XV of the Securities and Futures Ordinance (the "SFO")) which would have to be notified to the Company and the Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests or short positions which they were taken or deemed to have under such provisions of the SFO) or which were required, pursuant to Section 352 of the SFO, to be registered in the register referred to therein, or which would fall to be disclosed to the Company and the Stock Exchange pursuant to the Model Code for Securities Transactions by Directors of Listed Issuers.

於2017年12月31日，本公司非執行董事閻焱先生對本公司的288,200,000股股份擁有權益。更多資料請見「主要股東於股份之權益」。除上文所披露者之外，本公司各董事、監事及高級管理人員概無在本公司或其任何相聯法團(定義見《證券及期貨條例》(「《證券及期貨條例》」)第XV部)的股份、相關股份或債權證中擁有任何根據《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或淡倉(包括根據《證券及期貨條例》的該等條文被當作或視為擁有的權益或淡倉)，或根據《證券及期貨條例》第352條須登記於該條所指登記冊的權益或淡倉，或根據《上市發行人董事進行證券交易的標準守則》須知會本公司及聯交所的權益或淡倉。

## EQUITY-LINKED AGREEMENTS

No equity-linked agreements that will or may result in the Company issuing shares or that require the Company to enter into any agreements that will or may result in the Company issuing shares were entered into by the Company during the year or subsisted at the end of the year.

### 股票掛鈎協議

於年內或年度結束時，本公司概無訂立或存在任何股票掛鈎協議將會或可導致本公司發行股份，或規定本公司訂立任何協議將會或可導致本公司發行股份。

**SUBSTANTIAL SHAREHOLDERS' INTERESTS IN SHARES**

**主要股東於股份之權益**

As of 31 December 2017, to the knowledge of the Directors, the persons below (except the Directors Mr. YAN Andrew Y., Supervisors and senior management of the Company) have interests or short positions in the shares or underlying shares of the Company which are required to be disclosed pursuant to Divisions 2 and 3 of Part XV of the SFO (the table has been updated according to the records of CCASS and the latest information in the Company's possession):

於2017年12月31日，就董事所知，下列人士(本公司董事閻焱先生、監事及高級管理人員除外)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分部須向本公司披露之權益或淡倉(該表已根據中央結算系統持股紀錄及本公司掌握最新情況更新)：

Name of Shareholders	Class of Share	Capacity	Number of Shares/ Underlying Shares Held 持有股份/ 相關股份數目 (Share) (股)	Percentage in the Relevant Class of Share Capital <sup>(1)</sup> 佔有關股本類別 之百分比 <sup>(1)</sup> %	Percentage in the Total Share Capital <sup>(1)</sup> 佔股本總數 之百分比 <sup>(1)</sup> %
Guodian Group 國電集團	Domestic shares 內資股	Interests of beneficial owner and controlled corporation 實益擁有人及受控公司之權益	4,754,000,000 <sup>(2)</sup> (Long position) (好倉)	100.00	78.40
Guodian Power 國電電力	Domestic shares 內資股	Interests of beneficial owner 實益擁有人之權益	2,376,500,000 <sup>(2)</sup> (Long position) (好倉)	49.99	39.19
Mr. YAN Andrew Y. 閻焱先生	H shares H股	Interests of beneficial owner and controlled corporation 實益擁有人及受控公司之權益	288,200,000 <sup>(3)</sup> (Long position) (好倉)	22.00	4.75
SAIF IV GP Capital Ltd.	H shares H股	Interests of beneficial owner and controlled corporation 實益擁有人及受控公司之權益	288,200,000 <sup>(3)</sup> (Long position) (好倉)	22.00	4.75
SAIF IV GP LP	H shares H股	Interests of beneficial owner and controlled corporation 實益擁有人及受控公司之權益	288,200,000 <sup>(3)</sup> (Long position) (好倉)	22.00	4.75
SAIF Partners IV L.P.	H shares H股	Interests of beneficial owner 實益擁有人之權益	288,200,000 <sup>(3)</sup> (Long position) (好倉)	22.00	4.75
National Council for Social Security Fund of the PRC 全國社會保障基金理事會	H shares H股	Interests of beneficial owner 實益擁有人之權益	77,310,000 (Long position) (好倉)	5.90	1.27
State Grid International Development Limited 國家電網國際發展有限公司	H shares H股	Interests of beneficial owner 實益擁有人之權益	76,284,000 (Long position) (好倉)	5.82	1.26





Notes:

- (1) This percentage is calculated based on the number of relevant shares/ total shares issued by the Company as of 31 December 2017.
- (2) Guodian Group held 100% interest in the domestic shares in the Group directly or indirectly through Guodian Power. As of 31 December 2017, Guodian Group held 46% interest in the total share equities of Guodian Power, and Guodian Power held 49.99% interest in the domestic shares of the Company. Accordingly, Guodian Group was deemed to have interest in the equity in domestic shares held by Guodian Power.
- (3) Mr. YAN Andrew Y. indirectly held 22.00% interest in the H shares indirectly via SAIF Partners IV L. P. through SAIF IV GP Capital Ltd. and SAIF IV GP LP. He is the controlling shareholder of SAIF IV GP Capital Ltd., SAIF IV GP LP, and SAIF Partners IV L. P.. SAIF IV GP Capital Ltd. is the controlling shareholder of SAIF IV GP LP. SAIF IV GP LP is the controlling shareholder of SAIF Partners IV L.P.. SAIF Partners IV L.P. has 22.00% interest in the H shares. Therefore, Mr. YAN Andrew Y., SAIF IV GP Capital Ltd. and SAIF IV GP LP are deemed to have the interests in the H shares held by SAIF Partners IV L. P..

## MANAGEMENT CONTRACTS

The Company did not enter into any contract in respect of the management or administration of the entire or any significant part of the business of the Company nor did such contract subsist at any time during 2017.

## CONNECTED TRANSACTIONS

The Company has entered into certain contracts with its connected persons (as defined under Chapter 14A of the Listing Rules). These transactions were monitored and managed by the Company in accordance with the Listing Rules.

附註：

- (1) 該百分比是以本公司於2017年12月31日已發行的相關股份數目／總股份數目計算。
- (2) 國電集團透過國電電力直接及間接持有本集團100%的內資股。於2017年12月31日，國電集團於國電電力股份總額中擁有46.00%的權益，國電電力擁有本公司49.99%的內資股權益。因此，國電集團被視作為擁有國電電力所持有的內資股的權益。
- (3) 閻焱先生透過SAIF IV GP Capital Ltd.及SAIF IVGP LP經SAIF Partners IV L.P.間接持有22.00%的H股。閻焱先生是SAIF IV GP Capital Ltd.、SAIF IV GP LP以及SAIF Partners IV L.P.的控股股東。SAIF IV GP Capital Ltd.是SAIF IV GP LP的控股股東。SAIF IV GP LP是SAIF Partners IV L.P.的控股股東。SAIF Partners IV L.P.擁有22.00%的H股。因此，閻焱先生、SAIF IV GP Capital Ltd.以及SAIF IV GP LP被視作為擁有SAIF Partners IV L.P.所持有H股的權益。

## 管理合約

2017年度內本公司並未於任何時間就有關本公司全部或任何重大部份業務的管理或行政工作訂立或存在任何合約。

## 關連交易

本公司已與其關連人士(定義見上市規則第14A章)訂立若干合約。此等交易乃由本公司根據上市規則監督和管理。

Non-exempt connected transactions of the Group during 2017 are as follows (unless otherwise defined, capitalized terms used herein shall have the same meanings as those defined in the relevant announcements as mentioned below):

**(1) Non-exempt One-off Connected Transaction**

On 13 September 2017, Longyuan Energy Saving, a wholly-owned subsidiary of the Company, and GSTRI has entered into an equity interest transfer agreement, under which Longyuan Energy Saving has conditionally agreed to acquire, and GSTRI has conditionally agreed to sell, 100% of the equity interest in Lantian Company at a consideration of RMB48,156,500.

As GSTRI is a wholly-owned subsidiary of Guodian Group, Guodian Group directly and indirectly holds 78.40% of the issued share capital of the Company as the controlling shareholder of the Company. Therefore, GSTRI is a connected person of the Company. In accordance with Chapter 14A of the Hong Kong Listing Rules, the acquisition between Longyuan Energy Saving and GSTRI constitutes the connected transaction of the Company.

Lantian Company masters low-level-energy high-quality heating technology and a large number of other energy conservation technologies and it is advantageous in technology and has large business potential market capacity. The acquisition of Lantian Company can integrate and optimize its technologies with the existing energy conservation technologies of the Company, carry out system integration and research on machine, furnace, electricity, auxiliary machine and heating system, enhance the comprehensive strength and business scale of Longyuan Energy Saving, and improve the comprehensive energy conservation technical capacity of the Group.

For details, please refer to the announcements of the Company dated respectively 13 September 2017 and 17 October 2017.

下列為本集團於2017年度內的未獲豁免關連交易(除非另有定義, 本年報所用之詞彙與如下公告所界定者具相同含義):

**(1) 不獲豁免一次性關連交易**

於2017年9月13日, 本公司全資附屬公司龍源節能與國電科技研究院訂立股權轉讓協議, 據此, 龍源節能有條件同意購買, 而國電科技研究院有條件同意出售其於藍天公司的100%股權, 對價為人民幣48,156,500元。

由於國電科技研究院是國電集團的全資附屬公司, 國電集團直接及間接持有本公司已發行股本的78.40%, 為本公司之控股股東, 故國電科技研究院為本公司的關連人士。根據香港上市規則第14A章, 龍源節能與國電科技研究院之間的收購項目構成本公司的關連交易。

藍天公司掌握低位能優質供暖技術等大量節能相關技術, 技術優勢明顯, 業務潛在市場容量較大, 收購藍天公司可將其技術與本公司已有的節能技術進行整合優化, 開展對機、爐、電、輔機和供熱系統的系統整合研究, 提升龍源節能綜合實力及業務規模, 提高本集團的綜合節能改造技術能力。

有關詳情請見本公司日期為2017年9月13日及2017年10月17日之公告。



On 22 December 2017, Longyuan Technology, a non-wholly-owned subsidiary of the Company, entered into an investment cooperation agreement and shareholder's agreement with Guodian Shandong pursuant to which the both parties contributed to establish a joint venture company which engages in the construction of wind power project of Guodian Dongping. The scale under construction of wind power project of Guodian Dongping is tentatively to be 96,000 kW and the actual scale under construction is determined according to the relevant policies and requirements of the local government. The registered capital of the joint venture company is RMB159,008,000 and the proportions and contribution amounts of the registered capital of the joint venture company which both parties accounted for: (i) Longyuan Technology for 24%, contributing to approximately RMB38,162,000; (ii) Guodian Shandong for 76% contributing to approximately RMB120,846,000. The operation term of the joint venture is 25 years, commencing from the date on which the joint venture's business license is issued by the local Administration for Industry and Commerce.

As Guodian Shandong is a wholly-owned subsidiary of Guodian Group, Guodian Group directly and indirectly holds 78.40% of the issued share capital of the Company as the controlling shareholder of the Company; Longyuan Technology is held as to 23.25% equity interests and accounted for as a subsidiary by the Company. Therefore, Guodian Shandong is the connected person of the Company. In accordance with Chapter 14A of the Listing Rules, the establishment of a joint venture company constitutes a connected transaction of the Company.

Longyuan Technology intends to take a stake in the high-quality wind power projects of Guodian Group through the establishment of the joint venture company, and adequately leveraging the integration advantages of itself and Guodian Group in the aspects of technology, resources and capital, so as to ensure a sustainable and stable return on investment in the industry.

For details, please refer to the announcement of the Company dated 22 December 2017.

於2017年12月22日，本公司的非全資附屬公司龍源技術與國電山東簽訂投資合作協議及股東協議，據此，雙方合資設立合營公司，從事國電東平風電項目建設。東平風電項目建設規模暫定9.6萬千瓦，實際建設規模根據當地政府相關政策及要求確定。合營公司的註冊資本金為15,900.8萬元人民幣，雙方佔合營公司註冊資本金的比例和出資金額分別為：(i)龍源技術佔24%，出資約3,816.2萬元人民幣；及(ii)國電山東佔76%，出資約12,084.6萬元人民幣。合營公司之經營期限為25年，自當地工商行政管理局簽發公司營業執照之日開始計算。

由於國電山東為國電集團之全資附屬公司，國電集團直接及間接持有本公司已發行股本的78.40%，為本公司之控股股東，而龍源技術由本公司持有23.25%的股權，並視其為附屬公司入賬，故國電山東為本公司的關連人士。根據上市規則第14A章，成立合營公司構成本公司的關連交易。

通過成立合營公司，龍源技術擬參股國電集團優質風電項目，充分發揮其與國電集團在技術、資源、資金方面的整合優勢，確保獲得可持續穩定的產業投資收益。

有關詳情請見本公司日期為2017年12月22日之公告。

**(2) Non-exempt Continuing Connected Transaction**

The Group has entered into certain non-exempt continuing connected transactions during 2017.

For the continuing connected transactions item numbered one, two, three, four and eight, the Company has obtained approval from the shareholders' meeting on the annual caps for the year 2017. For the continuing connected transaction items numbered five, six, seven and nine, the Company has obtained approval from the Board of Directors and has published announcements on the annual caps for the year 2017.

The table below sets out the annual caps and the actual transaction amounts of such continuing connected transactions.

**(2) 不獲豁免持續關連交易**

本集團於2017年度訂立了若干不獲豁免持續關連交易。

就第一項、第二項、第三項、第四項及第八項持續關連交易而言，本公司已就2017年年度上限獲得股東大會批准通過。就第五項、第六項、第七項及第九項持續關連交易而言，本公司已就2017年年度上限向董事會取得批准，並就此刊發公告。

下表載列年度上限及該等持續關連交易的實際交易金額。

Connected Party	Transaction Type	Annual	Annual Actual
		Cap for 2017	Transaction
關連方	交易類型	2017年	2017年
		年度上限	年度實際交易金額
		(RMB million)	(RMB million)
		(人民幣百萬元)	(人民幣百萬元)
1 Guodian Group 國電集團	Provision of products and services by the Group to Guodian Group and its subsidiaries 由本集團向國電集團及其附屬公司提供產品及服務	29,500.0	7,854.1
2 Guodian Group 國電集團	Provision of products and services by Guodian Group and its subsidiaries to the Group 由國電集團及其附屬公司向本集團提供產品及服務	3,500.0	171.2
3 United Power 聯合動力	Provision of products and services by the Group to United Power and its subsidiaries 由本集團向聯合動力及其附屬公司提供產品及服務	800.0	326.9
4 United Power 聯合動力	Provision of products and services by United Power and its subsidiaries to the Group 由聯合動力及其附屬公司向本集團提供產品及服務	950.0	0.0
5 United Power 聯合動力	Lease of properties by the Group to United Power and its subsidiaries 由本集團向聯合動力及其附屬公司出租物業	30.0	21.7
6 Longyuan Technology 龍源技術	Provision of products and services by the Group to Longyuan Technology and its subsidiaries 由本集團向龍源技術及其附屬公司提供產品及服務	50.0	2.8
7 Longyuan Technology 龍源技術	Provision of products and services by Longyuan Technology and its subsidiaries to the Group 由龍源技術及其附屬公司向本集團提供產品及服務	125.0	35.6



Connected Party	Transaction Type	Annual	Annual Actual
		Cap for 2017	Transaction
關連方	交易類型	2017年	2017年
		年度上限	年度實際交易金額
		(RMB million)	(RMB million)
		(人民幣百萬元)	(人民幣百萬元)
8 Guodian Finance 國電財務	Provision of deposit services by Guodian Finance and its subsidiaries to the Group 由國電財務及其附屬公司向本集團提供存款服務	2,000.0 <sup>(1)</sup>	1,990.3
9 Guodian New Energy Technology Research Institute 國電新能源技術研究院	Lease of properties by Guodian New Energy Technology Research Institute to the Group 由國電新能源技術研究院向本集團出租物業	23.0	11.7

Note:

(1) These numbers represent the maximum daily balance of the deposit placed with Guodian Finance by the Group.

**1. Provision of products and services by the Group to Guodian Group and its subsidiaries (other than the Group)**

The Company and Guodian Group entered into a framework agreement on the mutual supply of products and services on 23 November 2011 (“**Guodian Framework Agreement**”), and such framework agreement was amended and supplemented by the first supplementary agreement dated 7 May 2012, the second supplementary agreement dated 28 August 2012, the third supplementary agreement dated 11 November 2013 and the fourth supplementary agreement dated 22 August 2014.

附註：

(1) 該等數字為本集團存於國電財務的每日最高存款餘額。

**1. 本集團向國電集團及其附屬公司(除本集團外)提供產品及服務**

本公司與國電集團於2011年11月23日訂立了互相供應產品及服務的框架協議(「**國電框架協議**」)，並經2012年5月7日訂立的第一次補充協議、2012年8月28日訂立的第二次補充協議、2013年11月11日訂立的第三次補充協議及2014年8月22日訂立的第四次補充協議修訂及補充。



Material terms and conditions of the Guodian Framework Agreement are set out as follows:

The goods and services to be provided by the Group to Guodian Group and its subsidiaries (other than the Group) mainly include:

- Environmental protection and energy conservation solutions services segment: (i) environmental protection products (including, among others, ash removal, water treatment and denitrification catalyst); (ii) energy conservation products (including, among others, plasma-assisted coal combustion equipment); (iii) environmental protection services (including, among others, desulphurisation concession service, denitrification concession service, desulphurisation EPC service, denitrification EPC service, water treatment construction – operation – transfer service); and (iv) energy conservation services (including, among others, steam turbine flow passage improvement service and EMC); and
- Renewable energy equipment manufacturing and integrated solutions services segment: (i) WTGs and their parts and components; (ii) solar power products; (iii) wind power services including wind farm EPC services; and (iv) solar power services (including, among others, solar station EPC services, discontinued operations).

If the terms and conditions of similar products and services offered by an independent third party are no better than those offered by one party, the other party will give priority in sourcing the requisite products and services from the first party.

The Group and Guodian Group and its subsidiaries (other than the Group) will enter into separate agreements which shall set out the specific scope of products and services, terms and conditions of providing such products and services according to the principles laid down by the framework agreement.

The term of Guodian Framework Agreement has expired on 31 December 2017. The Group and Guodian Group and its subsidiaries signed the 2018 Supplementary Agreement of Guodian Group on 20 November 2017 to extend the term of Guodian Framework Agreement to 31 December 2018. For details, please refer to the announcement of the Company dated 20 November 2017.

國電框架協議主要條款及條件載列如下：

本集團向國電集團及其附屬公司(除本集團外)提供的產品及服務主要包括：

- 環保及節能解決方案服務分部：(i)環保產品(包括除塵、水處理及脫硝催化劑)；(ii)節能產品(包括等離子體點火穩燃設備)；(iii)環保服務(包括脫硫特許經營服務、脫硝特許經營服務、脫硫EPC服務、脫硝EPC服務及水處理建設－營運－轉讓服務)；及(iv)節能服務(其中包括汽輪機通流改造服務及合同能源管理)；及
- 可再生能源設備製造及集成解決方案服務分部：(i)風力發電機組及其零部件；(ii)太陽能產品；(iii)風電服務(包括風電廠EPC服務)；及(iv)太陽能服務(包括發電站EPC服務，已終止經營)。

倘獨立第三方提供類似產品及服務的條款及條件並不比其中一方所提供者優惠，則另一方將優先向對方採購所需產品及服務。

本集團與國電集團及其附屬公司(除本集團外)將根據本框架協議所定的原則訂立獨立協議，當中載列產品及服務的指定範圍、提供該等產品的條款及條件。

國電框架協議有效期已於2017年12月31日屆滿。本集團與國電集團及其附屬公司已於2017年11月20日簽訂《國電集團2018年補充協議》，以延長國電集團框架協議的年期至2018年12月31日。有關詳情請見本公司日期為2017年11月20日之公告。



The price of products under the framework agreement will be based on the following pricing policy:

- (1) government-prescribed price (including any price prescribed by any relevant local government, if applicable);
- (2) where there is no government-prescribed price but there is a government-guidance price, then the government-guidance price;
- (3) where there is neither a government-prescribed price nor a government-guidance price, the market price, which is defined as the price at which the same type of products and/or services are provided by the independent third parties in the ordinary course of business; or
- (4) where none of the above is applicable or where it is not practical to apply the above pricing policies, then the price agreed between the relevant parties shall be based on arm's length negotiation and shall be the reasonable costs incurred in providing the products plus reasonable profits.

The above pricing mechanism is hereinafter referred to as the "**Applicable Standard Products Pricing Policy**".

The price of services under this agreement will be based on the following pricing policy:

- (1) the bidding price where the bidding process is required; or
- (2) where no bidding process is involved, the market price.

The above pricing mechanism is hereinafter referred to as the "**Applicable Standard Services Pricing Policy**".

框架協議項下的產品價格將按下列定價政策確定：

- (1) 政府定價(包括任何有關地方政府定價(如適用))；
- (2) 凡沒有政府定價，但有政府指導價的，執行政府指導價；
- (3) 沒有政府定價和政府指導價的，執行市場價，市場價定為獨立第三方於一般業務過程中提供的同類產品及／或服務的價格；或
- (4) 倘上述原則均不適用或倘運用上述定價政策不可行，則價格須由相關訂約方經公平協商議定且須為提供產品所產生的合理成本加上合理利潤。

上述定價機制於下文中稱作「**適用標準產品定價政策**」。

該協議項下的服務價格將按照下列定價政策確定：

- (1) 如需招標程序，則執行競標價；或
- (2) 如並無招標程序，則執行市場價。

上述定價機制於下文中稱作「**適用標準服務定價政策**」。

The Group would be accorded priority by Guodian Group and its subsidiaries (other than the Group) in the provision of the relevant products and services, provided that the terms and conditions offered by an independent third party to Guodian Group and its subsidiaries (other than the Group) are no more favourable than those offered by the Group for the same products or services, and on the other hand, under the same terms and conditions, the Group has undertaken to Guodian Group and its subsidiaries (other than the Group) that it shall not provide products and services which are less favourable than those offered by the Group to an independent third party.

Guodian Group is the controlling shareholder of the Company and Guodian Group together with its subsidiaries are connected persons of the Company under the Listing Rules.

Guodian Group and its subsidiaries have always been the important customers and suppliers of the Group. As the Company cooperates with Guodian Group for energy production activities, it provides environmental protection and energy conservation services for the thermal power production facilities operated by Guodian Group and its subsidiaries and provides Guodian Group with the wind power products necessary for its renewable energy platform. The relationship between the parties is always mutually beneficial, fair and reasonable and in line with the interest of the Company and its Shareholders as a whole.

The annual cap of this continuing connected transaction for 2017 was RMB29,500 million and the actual transaction amount during the reporting year was RMB7,854.1 million.

## 2. Provision of products and services by Guodian Group and its subsidiaries (other than the Group) to the Group

The Company entered into the Guodian Framework Agreement with Guodian Group on 23 November 2011, was amended and supplemented by the first supplemental agreement dated 7 May 2012 the second supplemental agreement dated 28 August 2012, the third supplemental agreement dated 11 November 2013 and the fourth supplemental agreement dated 22 August 2014.

Please refer to the relevant disclosure under “1. Provision of products and services by the Group to Guodian Group and its subsidiaries (other than the Group)” for material terms and conditions of the relevant framework agreement.

本集團獲國電集團及其附屬公司(除本集團外)授予提供相關產品及服務的優先權，惟獨立第三方向國電集團及其附屬公司(除本集團外)提供的條款及條件並不優於本集團為相同產品或服務所提供者，而根據相同條款及條件，本集團已向國電集團及其附屬公司(除本集團外)承諾，本集團提供的產品及服務不會遜色於本集團向獨立第三方所提供者。

國電集團為本公司控股股東，根據上市規則，國電集團及其附屬公司屬於本公司的關連人士。

國電集團及其附屬公司一直為本集團的重要客戶及供應商。本公司因與國電集團合作進行能源生產活動，向國電集團及其附屬公司旗下經營的火電生產設施提供環保及節能服務，以及提供國電集團可再生能源平台所用風力產品。雙方的關係為一直互惠互利，屬公平合理並符合本公司及股東的整體利益。

此項持續關連交易的2017年年度上限為人民幣29,500百萬元，而本報告年度內的實際交易金額為人民幣7,854.1百萬元。

## 2. 國電集團及其附屬公司(除本集團外)向本集團提供產品及服務

本公司與國電集團於2011年11月23日訂立了國電框架協議，經2012年5月7日訂立的第一次補充協議、2012年8月28日訂立的第二次補充協議、2013年11月11日訂立的第三次補充協議及2014年8月22日訂立的第四次補充協議修訂及補充。

有關該框架協議的主要條款及條件，請參閱上文「1.本集團向國電集團及其附屬公司(除本集團外)提供產品及服務」項下的有關披露。



Goods and services provided by Guodian Group and its subsidiaries (other than the Group) to the Group include: desulphurisation equipment, denitrification equipment and water supply, electricity supply, gas supply and consulting services.

As one of China's five largest power generation companies, Guodian Group can provide a broad market for the business development of the Company. At the same time, Guodian Group provides support and guarantee for the research and development, demonstration and promotion of new technologies, new products and new business models of the Company.

The annual cap of this continuing connected transaction for 2017 was RMB3,500.0 million and the actual transaction amount during the reporting year was RMB171.2 million.

### 3. Provision of products and services by the Group to United Power and its subsidiaries

The Company entered into a framework agreement with United Power for provision of products to United Power and its subsidiaries by the Group on 23 November 2011, was amended and supplemented by the first supplemental agreement dated 11 November 2013 and the second supplemental agreement dated 4 February 2016 (the "United Power Framework Agreement").

Pursuant to this agreement, the products and services to be provided to United Power and its subsidiaries by the Group include parts and components of WTGs.

Material terms and conditions of the United Power Framework Agreement are set out as follows:

Subsidiaries of both parties will enter into separate agreements which shall set out the specific terms and conditions for the provision of such products and services according to the principles laid down by the framework agreement. The products and services to be provided under the agreement will be based on the Applicable Standard Products Pricing Policy and Applicable Standard Services Pricing Policy.

國電集團及其附屬公司(除本集團外)向本集團提供的產品及服務包括: 脫硫設備、脫硝設備及供水、供電、供煤氣及諮詢服務等。

國電集團作為中國五大發電公司之一，能夠為本公司的業務發展提供廣闊市場。同時，國電集團為本公司研發、新技術的示範和推廣、新產品和新業務模式也提供了支持和保障。

此項持續關連交易的2017年年度上限為人民幣3,500.0百萬元，而本報告年度內的實際交易金額為人民幣171.2百萬元。

### 3. 本集團向聯合動力及其附屬公司提供產品及服務

本公司於2011年11月23日與聯合動力訂立由本集團向聯合動力及其附屬公司供應產品的框架協議，經2013年11月11日訂立的第一次補充協議及2016年2月4日訂立的第二次補充協議修訂及補充(「聯合動力框架協議」)。

根據該協議，本集團向聯合動力及其附屬公司供應的產品及服務，包括風力發電機組的零件及組件。

聯合動力框架協議的主要條款及條件載列如下：

雙方的附屬公司將根據該框架協議所定的原則訂立獨立協議，當中將載有提供產品及服務的條款及條件。該協議項下提供的產品及服務價格將分別根據適用標準產品定價政策和適用標準服務定價政策確定。

The agreement is for a term of three years ending on 31 December 2019. Either party may terminate such agreement upon giving the other party not less than three months' written notice.

The Company owns 70%, while Longyuan Power owns 30%, of equity interest in United Power. As Guodian Group, the Company's controlling shareholder, directly and indirectly owns 58.44% of equity interest in Longyuan Power, United Power is therefore an associate of Guodian Group. Pursuant to Chapter 14A of the Listing Rules, United Power and its subsidiaries are the connected person of the Company. The result of the transactions between United Power and its subsidiaries and the Company will be eliminated in consolidated financial statements.

United Power and its subsidiaries have always been the main subsidiaries and important customers of the Group (except United Power and its subsidiaries). The Group supplies parts and components of wind turbines to United Power, which in turn sells the wind turbine generator units equipped with these parts and components. The Group has always benefited from the cooperation between United Power and its subsidiaries. The relationship between the Group and United Power has always been mutually beneficial.

The annual cap of this continuing connected transaction for 2017 was RMB800.0 million, compared with the actual transaction amount of RMB326.9 million for the reporting year.

#### 4. United Power and its subsidiaries provide products and services to the Group

After the United Power Framework Agreement was amended and supplemented by the second supplementary agreement dated 4 February 2016, new categories of the continuing connected transactions for the provision of products and services by United Power and its subsidiaries to the Group has been added.

For the material terms and conditions of such framework agreement, please refer to the relevant disclosure under "3. The Group provides United Power and its subsidiaries with products and services" above.

該協議為期三年，於2019年12月31日屆滿。任何一方可在不少於三個月之前向另一方發出書面通知終止該協議。

本公司擁有聯合動力70%的股權，而龍源電力擁有聯合動力30%的股權。由於國電集團為本公司的控股股東，直接及間接持有龍源電力58.44%的股權，因此聯合動力為國電集團的聯繫人。根據上市規則第14A章，聯合動力及其附屬公司為本公司的關連人士。本公司與聯合動力及其附屬公司的交易結果將在合併財務報表層面抵銷。

聯合動力及其附屬公司一直為本集團(聯合動力及其附屬公司除外)的主要附屬公司及重要客戶。本集團向聯合動力供應風力發電機組的零件及組件，而聯合動力繼而出售已裝置此等零件及組件的風力發電機組。本集團一直受惠於與聯合動力及其附屬公司的合作，本集團與聯合動力的關係一直為互惠互利。

此項持續關連交易的2017年年度上限為人民幣800.0百萬元，而本報告年度內的實際交易金額為人民幣326.9百萬元。

#### 4. 聯合動力及其附屬公司向本集團提供產品及服務

聯合動力框架協議經2016年2月4日訂立的第二次補充協議修訂及補充後，增加了由聯合動力及其附屬公司向本集團提供產品及服務的持續關連交易新類別。

有關該框架協議的主要條款及條件，請參閱上文「3.本集團向聯合動力及其附屬公司提供產品及服務」項下的有關披露。





The products and services provided for the Group by United Power and its subsidiaries include parts and components of wind turbines and operating services. The Group is in need of the products and services, including parts and components of wind turbines, and operating services provided by United Power and its subsidiaries. The Group will be benefited from cooperation between United Power and its subsidiaries. The relationship between the Group and United Power has always been mutually beneficial.

The annual cap of this continuing connected transaction for 2017 was RMB950.0 million, as the relevant project has not been commenced yet, so there is no actual transaction amount temporarily during this reporting year.

#### 5. Property Leased by the Group to United Power and its subsidiaries

The Company entered into a property lease framework agreement (“**Lease Agreement**”) with United Power on 23 November 2011, amended and supplemented by the supplemental agreement dated 11 November 2013 and the second supplemental agreement dated 4 February 2016.

Material terms and conditions of the Lease Agreement are set out as follows:

The Company agreed to lease land and buildings to United Power and its subsidiaries as offices, production facilities, workshops and staff quarters;

United Power and its subsidiaries are not allowed to sub-lease or transfer such properties to another party without prior written consent from the Company;

The Lease Agreement shall expire on 31 December 2019 subject to the compliance with the requirements of the Listing Rules by the Company, the agreement is renewable upon mutual agreement of the parties;

During the term of the leases for the properties, each party to each lease will bear their own taxes in accordance with the applicable laws and regulations;

由聯合動力及其附屬公司向本集團提供的產品及服務包括風力發電機組的零件及組件以及營運服務等。本集團對聯合動力及其附屬公司所提供的產品及服務，包括風力發電機組的零件及組件及營運服務有需求。本集團將受惠於與聯合動力及其附屬公司的合作，本集團與聯合動力的關係一直為互惠互利。

此項持續關連交易的2017年年度上限為人民幣950.0百萬元，由於相關項目尚未開展，本報告年度內暫無實際交易金額。

#### 5. 由本集團向聯合動力及其附屬公司出租物業

本公司與聯合動力於2011年11月23日訂立物業租賃框架協議(「**物業租賃協議**」)，經2013年11月11日訂立的補充協議及2016年2月4日訂立的第二次補充協議修訂及補充。

物業租賃協議的主要條款及條件載列如下：

本公司同意將土地及樓宇租給聯合動力及其附屬公司用作辦公室、生產設施、車間及員工宿舍之用；

聯合動力及其附屬公司在未取得本公司的事先書面批准的情況下，不得分租或轉讓該物業予其他人士；

物業租賃協議有效期至2019年12月31日；在本公司遵守上市規則規定的前提下，協議可通過雙方協商續期；

於物業租賃期內，訂約雙方將根據適用法律及法規承擔各自的稅項；

United Power has guaranteed that it and its subsidiaries will pay the rents specified for each of the properties in a timely manner and that United Power and its subsidiaries shall use the properties in accordance with the leases terms and will not cause or allow damage to the value of the properties by others;

The rights and obligations of the parties under the leasing agreement are not transferable; and

The rent for each of the leases has been determined for the three year period with reference to similar properties in locations as specified in each of the leases and (where applicable) will be adjusted in accordance with the terms of the lease by mutual agreement or by the appointment of an independent valuator acceptable to both parties. However, any such increment in rent has to be reasonable and not higher than the rent that would otherwise be payable by an independent third party paying market rent for similar properties.

The Lease Agreement improves the Company's utilization of the properties and minimizes any unnecessary relocation cost for the Group as a whole. The second supplementary lease agreement of United Power has been beneficial to both the Company and its subsidiaries and has been fair, reasonable and in the interest of the Company and its Shareholders as a whole.

The annual cap of this continuing connected transaction for 2017 was RMB30.0 million and the actual transaction amount was RMB21.7 million.

#### 6. Provision of products and services by the Group to Longyuan Technology and its subsidiaries

The Company entered into the Framework Agreement ("Longyuan Technology Framework Agreement") on the mutual supply of products and services with Longyuan Technology on 23 November 2011, amended and supplemented by the supplemental agreement dated 31 July 2012, second supplemental agreement dated 11 November 2013 and third supplemental agreement dated 22 August 2014 and fourth supplemental agreement dated 4 February 2016.

聯合動力保證，聯合動力及其附屬公司將及時支付各項物業的指定租金，並根據租約使用物業，且不會亦不容許他人損害物業價值；

物業租賃協議雙方的權利及責任不得轉讓；及

每份租約的租金乃經參考各租約指定地點的同類物業後按三年期限釐定，並(如適用)將通過雙方磋商或委任雙方認可的獨立估價師根據租約條款作出調整。然而，租金的任何增幅必須合理，不得高於獨立第三方就同類物業支付的市場租金。

物業租賃協議在整體上有助本公司更加有效使用物業，並為本集團儘量降低任何不必要的置換成本。聯合動力第二份補充租賃協議一直對本公司及聯合動力及其附屬公司有利，屬公平合理並符合本公司及股東的整體利益。

此項持續關連交易的2017年年度上限為人民幣30.0百萬元，而本報告年度內的實際交易金額為人民幣21.7百萬元。

#### 6. 由本集團向龍源技術及其附屬公司提供產品及服務

2011年11月23日，本公司與龍源技術就互相提供產品及服務訂立的框架協議(「龍源技術框架協議」)，經於2012年7月31日訂立的補充協議、2013年11月11日訂立的第二次補充協議及2014年8月22日訂立的第三次補充協議及2016年2月4日訂立的第四次補充協議修訂及補充。



Material terms and conditions of Longyuan Technology Framework Agreement are set out as follows:

The products and services to be provided to Longyuan Technology and its subsidiaries by the Group include DCS and accessories, and on-site assembling and test.

If the conditions of similar products and services and the fees payable thereof offered by an independent third party are not better than those offered by one of the parties, the other party will give priority in sourcing the requisite products and services from the first party.

The Group and Longyuan Technology and its subsidiaries will enter into separate agreements which shall set out the specific scope of products and services in accordance with the terms and conditions for the provision of such products according to the principles laid down by the agreement.

Longyuan Technology Framework Agreement will expire on 31 December 2019. Either party may terminate the framework agreement upon giving the other party not less than three months' written notice.

The price of products under this agreement will be based on the Applicable Standard Products Pricing Policy; the price of the services under this agreement will be based on the Applicable Standard Services Pricing Policy.

The Company directly holds 23.25% of the issued share capital of Longyuan Technology which is accounted as a subsidiary of the Company. Longyuan Technology and its subsidiaries are connected persons of the Company under Chapter 14A of the Listing Rules. The result of the transactions between Longyuan Technology and its subsidiaries and the Group will be eliminated in consolidated financial statements.

龍源技術框架協議主要條款及條件載列如下：

本集團向龍源技術及其附屬公司提供的產品和服務包括：DCS分散控制系統及相關備件、現場組裝及調試等。

倘獨立第三方提供類似產品及服務的條件及就此收取的費用並不比其中一方所提供者優惠，則另一方將優先向對方採購所需產品及服務。

本集團與龍源技術及其附屬公司將訂立獨立協議，當中將載有服務的具體範圍、產品以及根據該協議所定的原則提供該等產品的條款及條件。

龍源技術框架協議有效期於2019年12月31日屆滿。任何一方可在不少於三個月之前向另一方發出書面通知終止龍源技術框架協議。

該協議項下的產品價格將根據適用標準產品定價政策確定；該協議項下的服務價格將根據適用標準服務定價政策確定。

本公司直接持有龍源技術已發行股份的23.25%，龍源技術為本公司的附屬公司。根據上市規則第14A章，龍源技術及其附屬公司為本公司的關連人士。本集團與龍源技術及其附屬公司的交易結果將在合併財務報表層面抵銷。

Longyuan Technology needs the DCS power plant control system and other products and services provided by the Group; and the Group has always been benefiting from the cooperation with Longyuan Technology. The annual cap of this continuing connected transaction for 2017 was RMB50.0 million and the actual transaction amount was RMB2.8 million.

**7. Provision of products and services by Longyuan Technology and its subsidiaries to the Group**

The Company and Longyuan Technology entered into the Longyuan Technology Framework Agreement on 23 November 2011 was amended and supplemented by the first supplemental agreement dated on 31 July 2012, the second supplemental agreement dated 11 November 2013, the third supplemental agreement dated 22 August 2014 and the fourth supplementary agreement dated 4 February 2016.

For the material terms and conditions of the framework agreement are set out above, please refer to the relevant disclosures under “6. Provision of products and services by the Group to Longyuan Technology and its subsidiaries”.

The products and services provided to the Group by Longyuan Technology and its subsidiaries include plasma ignition and stable combustion equipment, and other products and services for environmental protection and energy conservation, including low NOx combustion products and solutions and waste heat recovery products and services.

Longyuan Technology has been an important supplier of products and services for the Group. The Group has always been benefiting from cooperation with Longyuan Technology and believed that the Longyuan Technical Framework Agreement allows the provision of stable products and services for the Group and is crucial to the Group's business of environmental and energy conservation solutions.

During the reporting year, the annual cap of this continuing connected transaction for 2017 was RMB125.0 million and the actual transaction amount was RMB35.6 million.

龍源技術需要本集團提供的DCS電廠控制系統等產品及服務，本集團一直受惠於與龍源技術的合作。此項持續關連交易的2017年年度上限為人民幣50.0百萬元，而實際交易金額為人民幣2.8百萬元。

**7. 由龍源技術及其附屬公司向本集團提供產品及服務**

本公司於2011年11月23日與龍源技術訂立的龍源技術框架協議，經2012年7月31日訂立的補充協議、2013年11月11日訂立的第二次補充協議及2014年8月22日訂立的第三次補充協議及2016年2月4日訂立的第四次補充協議修訂及補充。

有關該框架協議的主要條款及條件，請參閱上文「6.由本集團向龍源技術及其附屬公司提供產品及服務」項下的有關披露。

龍源技術及其附屬公司為本集團提供的產品及服務包括：等離子體點火穩燃設備及其他環保及節能產品和服務，包括低氮燃燒產品及解決方案、餘熱回收產品及服務。

龍源技術一直為本集團重要的產品及服務供應商。本集團一直受惠於與龍源技術的合作，並認為龍源技術框架協議為本集團提供穩定的產品及服務，對本集團的環保及節能解決方案業務至關重要。

本報告年度內，此項持續關連交易的2017年年度上限為人民幣125.0百萬元，而實際交易金額為人民幣35.6百萬元。



#### 8. Provision of deposit services by Guodian Finance to the Group

The Company entered into a finance services framework agreement (the “**Financial Services Framework Agreement**”) with Guodian Finance for the provision of financial services by Guodian Finance to the Group on 31 July 2012, amended and supplemented by an amended supplemental agreement on 10 December 2013 and the second financial services supplemental agreement on 22 August 2014.

Material terms and conditions of the Financial Services Framework Agreement are set out as follows:

Pursuant to the Financial Services Framework Agreement, the services provided by Guodian Finance and its subsidiaries to the Group include (i) deposit services; (ii) loan services; and (iii) other financial services.

Under the Financial Services Framework Agreement, Guodian Finance has promised that the standard of financial services provided to the Company will not be less favourable than those offered to other members of the Guodian Group, or the standard of financial services or other similar services provided by commercial banks to the Company.

The Company and its subsidiaries shall utilize the financial services of Guodian Finance on a voluntary and non-compulsory basis and are not obliged to engage Guodian Finance for any particular service.

Guodian Finance and its subsidiaries may, from time to time, enter into separate financial service agreements with the Company and its subsidiaries for the provision of specific financial services by it to the Company and its subsidiaries, subject to the terms of the Financial Services Framework Agreement.

#### 8. 由國電財務向本集團提供存款服務

本公司於2012年7月31日就國電財務向本集團提供金融服務事宜與國電財務簽訂的金融服務框架協議(「**金融服務框架協議**」)，經2013年12月10日的經修訂的補充協議及2014年8月22日的第二次補充協議修訂及補充。

該金融服務框架協議的主要條款及條件如下：

根據該金融服務框架協議，國電財務及其附屬公司向本集團提供的服務包括(i)存款服務；(ii)貸款服務；以及(iii)其他金融服務。

該金融服務框架協議下，國電財務承諾，國電財務向本公司提供金融服務的標準不低於國電財務向國電集團旗下其他成員提供金融服務的標準、或商業銀行向本公司提供金融服務的標準、或其他同類服務的標準。

本公司及其附屬公司應在自願和非強制的基礎上使用國電財務提供的服務，無義務就任何特殊服務而僱用國電財務為其提供服務。

根據該金融服務框架協議載明的條款，國電財務及其附屬公司可不時就其向本公司及其附屬公司提供具體金融服務的事宜與本公司及其附屬公司簽訂單獨的金融服務協議。



The services to be provided by Guodian Finance and its subsidiaries under such agreement will be based on the following pricing policy:

- (1) Deposit services: interest rates of deposit services shall not be lower than any of the following: (i) the benchmark deposit interest rates announced by the People's Bank of China ("PBOC") from time to time for the same category of deposits; (ii) the interest rates offered to other members among its network by Guodian Finance for the same category of deposits; and (iii) the interest rates offered to the Company and its subsidiaries by any commercial bank for the same category of deposits.
- (2) Loan services: interest rates of loan services shall not be higher than any of the following: (i) 10% lower than the interest rates published by the PBOC from time to time for the same category of loans; (ii) the interest rates offered to other members among its network by Guodian Finance for the same category of loans; and (iii) the interest rates offered to the Company and its subsidiaries by commercial banks for the same category of loans.
- (3) Other financial services: the interest rates or service fees charged for other financial services (i) shall comply with the standard rates as promulgated by the PBOC or China Banking Regulatory Commission from time to time (if applicable); (ii) shall be no higher than or equal to the interest rates or service fees charged by commercial banks or other financial institution for comparable services; and (iii) shall not be higher than the interest rates or service fees charged by Guodian Finance for comparable services to other members among its network.

The term of the Finance Service Framework Agreement will expire on 31 December 2017.

Guodian Group is the controlling shareholder of the Company as defined under the Listing Rules and thus is a connected person of the Company. Guodian Finance and its subsidiaries are subsidiaries of Guodian Group, and therefore Guodian Group and its subsidiaries are connected persons of the Company.

國電財務及其附屬公司根據該協議提供的服務應建立在下述定價政策基礎之上：

- (1) 存款服務：存款服務的利率不得低於下述利率：(i) 中國人民銀行(「人民銀行」)就同類存款不時公佈的利率上限；(ii) 國電財務就同類存款向其網絡內的其他成員提供的利率；以及(iii) 任何商業銀行就同類存款向本公司及其附屬公司提供的利率。
- (2) 貸款服務：貸款服務的利率不得高於下述利率：(i) 較人民銀行就同類貸款不時公佈利率低10%的利率；(ii) 國電財務就同類貸款向其網絡內的其他成員提供的利率；以及(iii) 任何商業銀行就同類貸款向本公司及其附屬公司提供的利率。
- (3) 其他金融服務：其他金融服務的利率或就其他金融服務收取的服務費(i) 應遵從人民銀行或中國銀行業監督管理委員會(如適用)不時公佈的標準收費率；(ii) 不得高於或等同於商業銀行或其他金融機構就同類服務提供的利率或收取的服務費用；以及(iii) 不得高於國電財務就同類服務向其網絡內的其他成員提供的利率或收取的服務費用。

金融服務框架協議的有效期至2017年12月31日屆滿。

根據上市規則定義，國電集團為本公司控股股東，因此也是本公司的關連人士。國電財務及其附屬公司為國電集團附屬公司，因此國電財務及其附屬公司也是本公司的關連人士。



The deposit placed in Guodian Finance is mainly to respond to business needs and some of the Group's customers also use the deposit services provided by Guodian Finance. This practice can facilitate settlement, timely collection; and at the same time, Guodian Finance can provide the Group with the commercial terms no less favorable than those provided by other China's commercial banks. The cooperation between the Group and Guodian Finance and its subsidiaries may reduce financial costs, increase interest incomes on deposits, reduce settlement costs, and aid the control of the risks faced by the Group.

In 2017, the upper limit of the daily deposit balance placed by the Group in Guodian Finance and its subsidiaries (including any interest payable on deposits) was RMB2,000.0 million, and the actual maximum daily deposit balance for the reporting year was RMB1,990.3 million.

On 9 November 2017, the Group entered into a financial service framework agreement with Guodian Capital Holdings, the parent company of Guodian Finance, with the term from 1 January 2018 to 31 December 2020, in respect of the proposed annual cap for deposit services, credit services and other financial services. For details, please refer to the announcement of the Company dated 9 November 2017.

**9. Property Lease from Guodian New Energy Technology Research Institute to the Group**

On 29 December 2016 the company and its subsidiaries entered into a 2017 property lease framework agreement ("**Property Lease Framework Agreement**") with Guodian New Energy Technology Research Institute ("**New Energy Research Institute**"). According to the Property Lease Framework Agreement, New Energy Research Institute agreed to lease certain properties to the Company and its subsidiaries for a term of one year commencing from 1 January 2017 to 31 December 2017.

將存款放置在國電財務，主要是應對業務需要，本集團的一些客戶也使用國電財務提供的存款服務，這種做法可方便結算，及時收款；同時國電財務能為本集團提供不遜於其他中國商業銀行的良好的商業條款。本集團、國電財務及其附屬公司之間的合作或會減少財務開支，增加存款利息收入，減低結算成本，以及協助控制本集團面臨的風險。

2017年度本集團存置於國電財務及其附屬公司的每日存款餘額上限(包括存款中任何應付利息)為人民幣2,000.0百萬元，而報告年度內的實際最高每日存款餘額為人民幣1,990.3百萬元。

於2017年11月9日，本集團與國電財務的母公司國電資本控股訂立金融服務框架協議，年期自2018年1月1日至2020年12月31日，有關存款服務、信貸服務及其他金融服務的建議年度上限。有關詳情請見本公司日期為2017年11月9日之公告。

**9. 由國電新能源技術研究院向本集團出租物業**

於2016年12月29日，本公司及各附屬公司與國電新能源技術研究院(「**新能源研究院**」)訂立2017年物業租賃框架協議(「**物業租賃框架協議**」)。根據物業租賃框架協議，新能源研究院同意向本公司及其附屬公司出租若干物業，自2017年1月1日起計至2017年12月31日止，為期一年。

The rent will be calculated according to the construction area of the premises and shall not exceed RMB7.2 per square meter per day (exclusive of the property management fee and the water and electricity fees). The rent may be adjusted by mutual agreement or by the appointment of an independent valuer recognised by both parties. However, such adjustment shall be reasonable and not higher than the rent that would otherwise be market rent payable by an independent third party for similar properties and market rent receivable by an independent third party for similar properties. The rent will be determined based on the condition of each premise with reference to the fair and reasonable market price and rents of comparable properties in similar locations. The annual cap is calculated after taking into account the demand of the Group for leasing the property from New Energy Research Institute and the historical figure.

As defined under the Listing Rules, Guodian Group is the controlling shareholder of the Company and therefore a connected person of the Company. New Energy Research Institute is wholly-owned by Guodian Group and therefore a connected person of the Company. In accordance with Chapter 14A of the Listing Rules, the transaction under the Property Lease Framework Agreement constitutes the continuing connected transaction of the Company.

The transaction provides a certain subsidiaries of the Company with stable and necessary office properties and enables them to carry out their business in the properties of the New Energy Research Institute. The Property Lease Framework Agreement was entered into after fair negotiation and is in favor of the Company and its related subsidiaries.

During the reporting year, the 2017 annual cap of this connected transaction amounted to RMB23.0 million, and the actual transaction amount was RMB11.7 million.

On 28 December 2017, the Company entered into a property lease framework agreement for 2018 with New Energy Research Institute, pursuant to which New Energy Research Institute agreed to lease certain premises to the Company and its subsidiaries for a term of one year commencing from 1 January 2018 and ending on 31 December 2018. For details, please refer to the announcement of the Company dated 28 December 2017.

租金將按物業建築面積計算，不得超過每天每平方米人民幣7.2元(不包括物業管理費及水電費)。租金可在雙方同意下或委聘獲雙方接納的獨立估值師予以調整。然而，有關調整須屬合理，且不得高於獨立第三方以其他方式就類似物業應付的市場租金及獨立第三方就類似物業收取的金額。租金將按各物業的狀況經參考公平合理的市價以及於類似地點的可資比較物業的租金後釐定。年度上限乃經考慮本集團對自新能源研究院租賃物業之需求及過往數據後計算得出。

根據上市規則定義，國電集團為本公司控股股東，故為本公司關連人士。新能源研究院由國電集團全資擁有，因此為本公司關連人士。根據上市規則第14A章，物業租賃框架協議項下進行的交易構成本公司之持續關連交易。

該交易為本公司若干附屬公司提供穩定及所需的辦公室物業，並讓彼等能於新能源研究院之物業內進行其業務。物業租賃框架協議乃經公平磋商後訂立，且對本公司及其相關附屬公司有利。

本報告年度內，此項持續關連交易的2017年年度上限為人民幣23.0百萬元，而實際交易金額為人民幣11.7百萬元。

於2017年12月28日，本公司與新能源研究院訂立2018年物業租賃框架協議。根據該協議，新能源研究院同意向本公司及其附屬公司出租若干物業，自2018年1月1日起計至2018年12月31日止，為期一年。有關詳情請見本公司日期為2017年12月28日之公告。



## REVIEW OF INDEPENDENT NON-EXECUTIVE DIRECTORS

The independent non-executive Directors of the Company have reviewed each of the abovementioned continuing connected transactions and confirmed that such transactions were:

- (1) made in the ordinary and usual course of business of the Group;
- (2) on normal commercial terms or better, or, if there are no comparable transactions to determine whether they are on normal commercial terms or better, from the perspective of the Group, on terms of such transactions no less favourable than the terms available to or from an independent third party; and
- (3) in accordance with relevant agreements governing the relevant transactions on terms that are fair and reasonable and in the interests of the Shareholders as a whole.

## LETTER FROM AUDITORS

Pursuant to rule 14A.56 of the Listing Rules, the Company's auditor was engaged by the Board of Directors to report on the Group's continuing connected transactions in accordance with Hong Kong Standard on Assurance Engagements 3000 (Revised) "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 the Listing Rules" issued by the Hong Kong Institute of Certified Public Accountants. Based on the work performed, the auditor of the Company confirmed to the Board of Directors of the Company that the aforesaid continuing connected transactions:

- (1) have been approved by the Board of Directors of the Company;
- (2) involving the provision of goods and services by the Group were entered into in accordance with the pricing policies of the Group stipulated under the relevant agreements governing such transactions;
- (3) have been entered into in accordance with the relevant agreements governing such transactions; and
- (4) have not exceeded the relevant annual caps as disclosed in the relevant announcements of the Company.

## 獨立非執行董事審核確認情況

本公司獨立非執行董事已審閱上述各項持續關連交易，並確認該等交易：

- (1) 在本集團日常業務過程中訂立；
- (2) 按照一般商業條款或更佳條款進行，或如並無可供比較的交易釐定該等交易是否按一般商業條款或更佳條款進行，則對本集團而言，該等交易的條款不遜於獨立第三方可取得或提供的條款；及
- (3) 根據規管有關交易的相關協議進行，而條款公平合理，並符合本公司股東整體利益。

## 核數師函件

根據上市規則第14A.56條，本公司核數師已獲本公司董事會聘用，根據香港會計師公會頒佈之香港鑒證業務準則第3000號(經修訂)「非審核或審閱歷史財務資料之鑒證工作」及參照實務說明第740號「關於香港上市規則所述持續關連交易的核數師函件」就本集團的持續關連交易作出匯報。根據所執行的工作，本公司核數師向本公司董事會確認上述持續關連交易：

- (1) 已獲本公司董事會批准；
- (2) 涉及由本集團提供產品及服務的，乃按照規管有關交易的協議規定的本集團的定價政策而進行；
- (3) 已根據規管有關交易的協議條款進行；及
- (4) 並無超逾本公司的相關公告中披露的有關年度上限。

The auditor has issued a letter containing its findings and conclusions in respect of the continuing connected transactions disclosed by the Group on pages 77 to 91 of this Annual Report in accordance with rule 14A.56 of the Listing Rules. A copy of the auditor's letter has been provided by the Company to the Stock Exchange.

Save as disclosed above, no related party transaction set out in the Notes to the Financial Statements falls into the category of connected transactions or continuing connected transactions under the Listing Rules.

### RELATED PARTY TRANSACTIONS

The related party transactions in 2017 disclosed in Note 40(a) to the Financial Statements in accordance with International Accounting Standard 24 "Related Party Disclosures" that also fall under the definitions of "connected transaction" or "continuing connected transaction" (as the case may be) in Chapter 14A of the Listing Rules have been disclosed in the section headed "Connected Transactions". Note 40(a) to the Financial Statements also includes related party transactions that do not fall under the definition of "connected transaction" or "continuing connected transaction" or are otherwise fully exempt from all disclosure requirements in accordance with Chapter 14A of the Listing Rules.

### TRUST DEPOSIT

On 31 December 2017, the Company and its subsidiaries have not placed any trust deposit at domestic or overseas financial institutions, and had no unrecovered time deposits which had passed their maturity dates.

### DONATION

During the year, the Company and its subsidiaries donated RMB220,000 (2016: RMB125,000).

根據上市規則第14A.56條，核數師已就本年報第77頁至第91頁本集團所披露的持續關連交易出具同載其發現及結論的函件。本公司已向聯交所提供核數師函件之副本。

除上述披露外，沒有載列於財務報表附註的任何關聯方交易屬於上市規則下的關連交易或持續關連交易。

### 關聯方交易

於財務報表附註40(a)中根據國際會計準則第24號「關聯方披露」所披露的2017年度關聯方交易中，同時也歸入上市規則第14A章有關「關連交易」或「持續關連交易」的定義(視乎何情況而定)，已遵守上市規則第14A章的披露規定於「關連交易」章節中對該等交易進行了披露。財務報表附註40(a)也包括不歸入上市規則第14A章所定義的「關連交易」或「持續關連交易」或獲全面豁免所有披露規定的關聯方交易。

### 委託存款

於2017年12月31日，本公司及其附屬公司未有存放於中國境內外金融機構的任何委託存款，亦未出現定期存款到期而不能償付的情況。

### 捐款

年內，本公司及其附屬公司作出的捐款為人民幣220,000元(2016年：人民幣125,000元)。





## COMPLIANCE WITH NON-COMPETITION AGREEMENT

The Company entered into the non-competition agreement (“**Non-Competition Agreement**”) with Guodian Group and Guodian Power respectively on 23 November 2011.

Pursuant to the agreement, Guodian Group and Guodian Power provided certain non-competition undertakings to the Company and granted the options and pre-emptive rights to acquire the retained business and any new business opportunities of Guodian Group or Guodian Power (as the case may be) to the Company. Pursuant to the agreement, the independent non-executive Directors of the Company are responsible for reviewing and considering whether or not to exercise such options and pre-emptive rights and are entitled, on behalf of the Company, to review the implementation of the undertakings under the agreement on an annual basis.

During the year, the independent non-executive Directors of the Company have reviewed the implementation of the Non-Competition Agreement and confirmed Guodian Group and Guodian Power have been in full compliance with the agreement and there was no breach by Guodian Group and Guodian Power.

## MAJOR CUSTOMERS AND SUPPLIERS

For the year ended 31 December 2017, the purchase from the Group's five largest suppliers in aggregate contributed 16.3% of the Group's total purchase for the year, among which, the total purchase from the largest supplier contributed 8.5% of the Group's total purchase for the year.

For the year ended 31 December 2017, the sales to the Group's five largest customers in aggregate contributed 22.7% of the Group's total sales for the year, among which, the sales to the largest customer contributed 9.2% of the Group's total sales for the year.

Guodian Group's subsidiaries as the Group's customers mainly include Guodian Power and Longyuan Power which are all the Group's connected persons. Save as disclosed above, during the year, so far as the Directors are aware, none of the Directors, associates of Directors or any Shareholders (who to the knowledge of the Directors owns more than 5% of the Company's issued share capital) had any interest in the Company's five largest suppliers or customers during the year.

## 《避免同業競爭協議》的遵守

於2011年11月23日，本公司已分別與國電集團及國電電力訂立《避免同業競爭協議》(「**避免同業競爭協議**」)。

根據該協議，國電集團及國電電力對本公司作出了若干不競爭承諾，並授予本公司收購國電集團及國電電力保留業務及任何新業務機會的選擇權及優先受讓權。根據該協議，本公司的獨立非執行董事負責審閱並考慮是否行使該等選擇權及優先受讓權，並有權代表本公司對該協議下承諾的執行情況進行年度審查。

本年度內，本公司獨立非執行董事已就《避免同業競爭協議》的執行情況進行了審閱，並確認國電集團及國電電力已充分遵守該協議，並無任何違約情形。

## 主要客戶及供貨商

截至2017年12月31日止年度，本集團五大供貨商的購買額共佔本集團本年度購買總額的16.3%，其中最大供貨商的購買總額佔本集團本年度購買總額的8.5%。

截至2017年12月31日止年度，本集團向五大客戶作出的銷售共佔本集團本年度銷售總額的22.7%，其中向最大客戶作出的銷售佔本集團本年度銷售總額的9.2%。

作為本集團客戶的國電集團附屬公司主要包括國電電力及龍源電力，均為本集團的關連人士。除上文披露外，於本年度內，就董事所知，概無董事、董事的聯繫人或本公司任何股東(據董事所知擁有本公司已發行股本5%以上的權益)於本年度內在本公司五大供貨商或客戶中擁有任何權益。

## SIGNIFICANT CONTRACTS

Save as disclosed in the section headed “Connected Transactions” on page 74 of this Annual Report, neither the Company nor any of its subsidiaries has entered into any significant contract with the controlling shareholder or any of its subsidiaries other than the Group, and the Group did not enter into significant contracts with the controlling shareholder or any of its subsidiaries other than the Group in relation to the provision of services.

## INTERESTS OF THE CONTROLLING SHAREHOLDER IN SIGNIFICANT CONTRACTS

Details of significant contracts entered into between the Company and the controlling shareholder or its subsidiaries are disclosed in the section headed “Connected Transactions” on page 74 of this Annual Report.

## ISSUED DEBENTURES

The Company did not issue new debentures in 2017.

## RETIREMENT AND EMPLOYEES BENEFIT SCHEME

Details of the Group’s retirement and employees benefit scheme are set out in Note 7(a) to the Financial Statements.

## COMPLIANCE WITH THE CODE ON CORPORATE GOVERNANCE PRACTICES

In 2017, the Company has complied with relevant code provisions as set out in the Code on Corporate Governance Practices in Appendix 14 to the Listing Rules. Please refer to the Corporate Governance Report of this Annual Report for details.

## PUBLIC FLOAT

Based on information publicly available to the Company and so far as the Directors are aware, not less than 21.6% of the issued share capital of the Company was held by the public as of the date of this Annual Report, which was in compliance with the requirements under the Listing Rules.

## 重大合約

除於本年報第74頁的「關連交易」一節中披露之外，本公司或其任何一家附屬公司概無和控股股東或其任何一家除本集團之外的附屬公司簽訂重大合約，且本集團並不存在與控股股東或其任何一家除本集團之外的附屬公司之間提供服務的重大合約。

## 控股股東於重要合約的權益

本公司與控股股東或其附屬公司之間所訂的重要合約詳情已披露於本年報第74頁的「關連交易」一節。

## 已發行的債權證

本公司於2017年並無新發行的債權證。

## 退休及僱員福利計劃

本集團退休及僱員福利計劃詳情載於財務報表附註7(a)。

## 遵守企業管治常規守則

2017年，本公司已遵守上市規則附錄14所載企業管治常規守則內的相關守則條文。詳情請參閱本年報的企業管治報告。

## 公眾持股量

根據本公司可公開獲得的資料，就董事所知，於本年報日期，公眾人士持有本公司已發行股本不少於21.6%，符合上市規則的規定。



## MATERIAL LITIGATION AND ARBITRATION

On 24 July 2017, a subsidiary of the Group, whose operations were discontinued, was sued by a supplier, and was required to pay the remaining RMB114.4 million and overdue interest according to the sales contract. As of the date of Annual Report, the case is still pending.

Save as disclosed above, for the year ended 31 December 2017, the Directors of the Company believe that other litigations and arbitrations of the Group involved will not have a material adverse effect on the financial position, operating results and business of the Group.

## AUDIT COMMITTEE

According to the Listing Rules, the Group has established the audit committee ("**Audit Committee**"), the responsibilities of which including providing suggestions to the appointment, re-appointment and dismissal of external independent auditors, and monitoring their works. The Audit Committee comprises Mr. YEUNG Chi Tat (independent non-executive Director), Mr. SHEN Xiaoliu (independent non-executive Director) and Mr. ZHANG Wenjian (non-executive Director). The 2017 annual results of the Group and the Financial Statements as of and for the year ended 31 December 2017, which have been prepared in accordance with the International Financial Reporting Standards, have been reviewed by the Audit Committee of the Company.

## AUDITORS

KPMG was appointed as the Company's international auditor, for the year ended 31 December 2017. The financial statements for the year ended 31 December 2017 of the Company have been prepared in accordance with the International Financial Reporting Standards, and have been audited by KPMG. KPMG has been appointed by the Company since the date of its listing.

By order of the Board of Directors  
**Guodian Technology & Environment Group Corporation Limited**  
*Chairman of the Board of Directors*  
**Mr. CHEN Dongqing**

Beijing, China, 29 March 2018

## 重大訴訟及仲裁

2017年7月24日，本集團已終止經營的一家附屬公司遭其供貨商起訴，要求根據銷售合同支付剩餘貨款人民幣114.4百萬元及若干逾期利息。截止本年度報告日，該案件尚在審理中。

除上述披露外，截至2017年12月31日止年度，本公司董事認為本集團涉及的其他訴訟及仲裁不會對本集團的財務狀況、經營業績及業務產生實質性不利影響。

## 審計委員會

本集團已根據上市規則的規定成立審計委員會（「**審計委員會**」），職責包括就外聘獨立核數師的委任、重新委任及罷免向董事會提出建議，並監督他們的工作。審計委員會成員為楊志達先生（獨立非執行董事）、申曉留先生（獨立非執行董事）及張文建先生（非執行董事）。本公司的審計委員會已審閱本集團2017年之年度業績，及按《國際財務報告準則》編製的於2017年12月31日及截至該日止年度的財務報表。

## 核數師

本公司已委任畢馬威會計師事務所為截至2017年12月31日止年度的國際核數師。畢馬威會計師事務所已審核本公司按《國際財務報告準則》編製的截至2017年12月31日止年度的財務報表。畢馬威會計師事務所自本公司上市之日起獲本公司委任。

承董事會命  
**國電科技環保集團股份有限公司**  
*董事長*  
**陳冬青先生**

中國·北京·2018年3月29日

# REPORT OF THE BOARD OF SUPERVISORS

## 監事會報告

In 2017, to protect the interests of the Shareholders and the Company, and in compliance with the relevant laws and regulations and the Articles of Association, the Board of Supervisors had effectively exercised its supervision authority over the meeting-convening and decision-making procedures of the Board of Directors. During this reporting year, the main responsibilities of the Board of Supervisors are as follows:

### 1. MEETINGS OF THE BOARD OF SUPERVISORS

Four meetings of the Board of Supervisors were convened in 2017:

- (1) The 2017 first meeting of the second session of the Board of Supervisors was convened on 30 March 2017. The meeting considered and approved the proposals on the 2016 annual report (draft), the 2016 profit distribution plan and the supervisor's report.
- (2) The 2017 second meeting of the second session of the Board of Supervisors was convened on 6 June 2017. The meeting considered and approved the proposal on nominating candidates for the third session of the Board of Supervisors of the shareholder representative supervisor.
- (3) The 2017 third meeting of the second session of the Board of Supervisors was convened on 8 August 2017. The meeting considered and approved the proposal on the election of the chairman of the Board of Supervisors.
- (4) The 2017 first meeting of the third session of the Board of Supervisors was convened on 30 August 2017. The meeting considered and approved the proposal on 2017 interim report (draft) and interim results announcement (draft), 2017 interim financial statement and 2017 interim profit distribution solution.

### 2. WORK UNDERTAKEN BY THE BOARD OF SUPERVISORS

In 2017, the Board of Supervisors mainly undertook the following work:

During the reporting year, the Board of Supervisors duly reviewed the Company's operation and development plan and proposed reasonable suggestions and advice to the Board of Directors. To safeguard the interests of the Shareholders, the Board of Supervisors actively and effectively performed its supervision duties over significant decisions and detailed implementations by the Company's senior management to ensure compliance with the relevant laws and regulations, and the Articles of Association.

2017年，本公司監事會為維護股東權益和公司利益，依照有關法律法規和公司章程的規定，對董事會的召開和決策過程有效行使其監管權。於本年度內，監事會的主要工作情況如下：

### 1. 監事會會議召開情況

2017年監事會共召開四次會議：

- (1) 2017年3月30日，召開第二屆監事會2017年度第一次會議，審議通過了關於2016年報(審議稿)、2016年度利潤分配方案及監事會報告的議案。
- (2) 2017年6月6日，召開第二屆監事會2017年度第二次會議，審議通過了關於提名公司第三屆監事會股東代表監事人選的議案。
- (3) 2017年8月8日，召開第二屆監事會2017年度第三次會議，審議通過了關於選舉監事會主席的議案。
- (4) 2017年8月30日，召開第三屆監事會2017年度第一次會議，審議通過了關於2017年度中期報告(審議稿)及中期業績公告(審議稿)、2017年度中期財務報表及2017年中期利潤分配方案的議案。

### 2. 監事會工作開展情況

2017年度，監事會主要開展以下工作：

在本報告年度內，監事會對本公司的經營及發展計劃進行充分審查，並向董事會提出合理的建議和意見。監事會積極且有效地履行監管職責，對本公司高級管理人員的重大決策及決策的具體實施情況實施監督，確保其符合國家法律法規以及《公司章程》的規定，維護股東利益。

## REPORT OF THE BOARD OF SUPERVISORS (CONTINUED)

### 監事會報告(續)

The Board of Supervisors duly reviewed and approved the report of the Board of Directors, the audited financial report and the profit distribution plan which were to be presented at the 2017 annual general meeting, and is of the opinion that the members of the Board of Directors, president and other senior management of the Company strictly complied with the principles of integrity, performed their duties diligently, exercised their powers in the best interests of the Company and discharged their responsibilities in accordance with the Articles of Association. Meanwhile, the Company's operations have been further standardized and its internal control system has been improved. The Company's connected transactions were in the interests of the Shareholders as a whole and were on fair and reasonable terms. The Board of Supervisors has not discovered any Directors or senior management that had abused their power or any of their actions were prejudicial to the interests of the Company or Shareholders, or violated the relevant laws and regulations or the Articles of the Association.

The Board of Supervisors is satisfied with the financial position and operational results of the Company in 2017. The Board of Supervisors is confident in the prospects of the Group.

監事會認真審閱並批准董事會報告，並審閱擬提呈予2017年股東週年大會的經審核的財務報告以及利潤分配方案，認為本公司董事會成員、總經理及其他高級管理人員，嚴格遵守誠信原則，工作克勤盡職，以本公司最佳利益為出發點行使職權，能夠按照《公司章程》履行其各項職責。同時，公司的運作更為規範化，內部控制系統也相應改善。本公司關連交易均本著公平、合理的原則，從本公司股東整體利益出發。監事會並無發現公司任何董事或者高級管理人員有濫用職權、損害本公司及公司股東合法利益以及違反有關法律、法規及《公司章程》規定的行為。

監事會對2017年度公司的財務狀況以及業績狀況表示認可，對本集團未來的發展前景充滿信心。



By Order of the Board of Supervisors  
**Guodian Technology & Environment Group Company Limited**  
*Chairman of the Board of Supervisors*  
**Mr. LUAN Baoxing**

Beijing, China, 29 March 2018



承監事會命  
**國電科技環保集團股份有限公司**  
*監事會主席*  
**樂寶興先生**

中國·北京·2018年3月29日



# CORPORATE GOVERNANCE REPORT

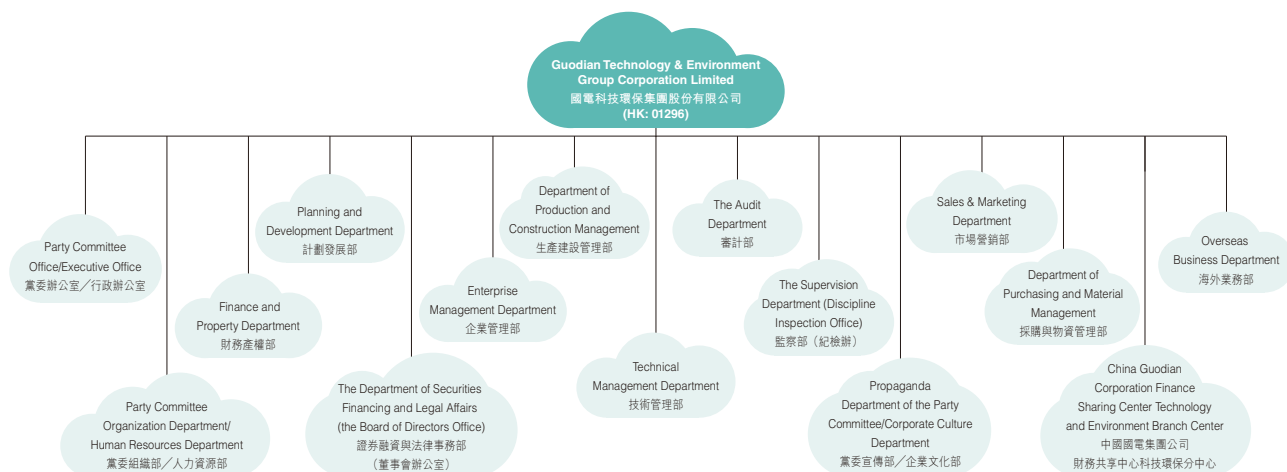
## 企業管治報告

The Board of Directors hereby presents to the Shareholders the corporate governance report for the year ended 31 December 2017 (the “Reporting Period”).

本公司董事會現向股東提呈截至2017年12月31日止年度(「報告期間」)的企業管治報告。

The corporate governance framework of the Company is set out as follows:

本公司的企業管治框架如下：



## CORPORATE GOVERNANCE PRACTICES

Since its establishment, the Company has been committed to improving its corporate governance, which is considered essential to the creation of value for the Shareholders. The Company has established a modern corporate governance structure, which comprises a number of independently-operated and effectively-balanced bodies, including general meeting, the Board of Directors, the Board of Supervisors and the senior management, by referring to the Code on Corporate Governance Practices (the “Code”) in Appendix 14 to the Listing Rules. The Company has also adopted the Code as its own corporate governance practice. During the Reporting Period, the Company had strictly complied with the principles and provisions of the Code, and in some circumstances adopted the best practices recommended by the Code.

The Company is dedicated to maintaining a high level of corporate governance. The Board of Directors has adopted various corporate policies and standards for application of proper governance principles in our usual business operations. In the course of our usual business operations, we comply with the applicable laws, rules and regulations of different countries and regions as part of our vigorous efforts to ensure a healthy and safe working environment for our employees, devote our utmost endeavor to safeguarding the interests of shareholders as a whole and place key focus on the sustainable development of the Company. During the Reporting Period, the Company has adopted the principles under the Code and complied with all the Code provisions thereunder.

## 企業管治常規

自成立以來，本公司始終致力於提升企業管治水平，視企業管治為實現為股東創造價值不可或缺的一部分。本公司參照上市規則附錄14所載《企業管治守則》(「《守則》」)，建立了由股東大會、董事會、監事會及高級管理層等獨立運作、有效制衡的現代公司治理架構。本公司亦採納《守則》作為本公司的企業管治常規。於報告期間，本公司嚴格遵守《守則》所載的原則及條文，並在特定情形下採取《守則》建議的最佳常規。

本公司致力維持高水平之企業管治。本公司董事會已採納多項企業政策及準則，以於我們日常活動中應用良好之管治原則。在我們的日常營運中，我們遵守適用國家及地區之法律、規則及規例，致力確保員工擁有健康及安全之工作環境，並竭力保障股東之整體利益，把重點放在本公司的可持續發展上。於報告期間，本公司已採用守則之原則並遵守所有守則條文。



Corporate governance practices adopted by the Company are summarized below:

本公司所採用的企業管治常規概述如下：

## 1. The Board of Directors

The Board of Directors exercises its powers and functions in accordance with the provisions as set out in the Articles of Association. In the best interests of the Company and the Shareholders, the Board of Directors reports to the general meetings, implements the resolutions passed thereon and are accountable to the general meetings.

### 1.1 Composition of the Board of Directors

As at the date of the Annual Report, the Board of Directors consisted of eleven Directors, including three executive Directors, four non-executive Directors and four independent non-executive Directors.

The biographical details of the Directors as at the date of this Annual Report are set out in the section headed "Directors, Supervisors and Senior Management" of this Annual Report. There are no relationships (including financial, business, family or other material or relevant relationships) among members of the Board of Directors. The structure of the Board of Directors is well balanced with each Director having sound knowledge, experience and expertise on the business operations and development of the Group. All Directors are well aware of their joint and several responsibilities to the Shareholders.

Since the listing of the Company, the Board of Directors has been in compliance with the requirements of the Listing Rules regarding the appointment of at least three independent non-executive Directors. The Board of Directors has also been in compliance with Rule 3.10A of the Listing Rules to appoint independent non-executive Directors representing at least one-third of the Board of Directors. Furthermore, the qualifications of all four independent non-executive Directors of the Company are in full compliance with the requirements under Rules 3.10(1) and (2) of the Listing Rules. In addition, the Company has received annual confirmations from all independent non-executive Directors as to their respective independence in accordance with Rule 3.13 of the Listing Rules. The Company therefore considers all independent non-executive Directors to be in compliance with the independence requirements as set out in the Listing Rules.

## 1. 董事會

董事會按照《公司章程》的規定行使其權力及職責，以本公司及其股東的最大利益為原則，向股東大會報告工作，執行股東大會的決議，對股東大會負責。

### 1.1 董事會的組成

截至本年報發佈日期止，董事會由11名董事組成，其中包括3名執行董事，4名非執行董事及4名獨立非執行董事。

董事於本年度報告日期的簡歷詳情載於本年報的「董事、監事及高級管理人員」一節。董事會各成員之間不存在任何關係(包括財務、業務、家族或其他重大或相關關係)。董事會結構平衡，每名董事均具備與本集團業務運營及發展有關的豐富知識、經驗及才能。所有董事深知其共同及個別對股東所負之責任。

自本公司上市以來，董事會一直符合上市規則有關委任至少三名獨立非執行董事的要求，且符合上市規則第3.10A條的規定，即所委任的獨立非執行董事必須佔董事會成員人數至少三分之一。本公司目前四名獨立非執行董事的資格完全符合上市規則第3.10(1)及(2)條的規定。此外，本公司已收到每名獨立非執行董事根據上市規則第3.13條就其各自的獨立性出具的年度確認書。因此，本公司認為所有獨立非執行董事均具備上市規則要求的獨立性。

The functions and responsibilities of the Board of Directors include: convening general meetings; reporting its work to the general meeting; implementing resolutions approved at general meetings; deciding on the Company's business plans and investment plans; formulating the Company's annual financial budget and final accounts; formulating the Company's profit distribution plans and proposals for the increase in or reduction of the registered capital; and exercising other powers, functions and responsibilities as set out in the Articles of Association. The Company has entered into a service contract or letter of appointment with each Director.

The Company firmly believes that the increasing diversity at the board level is one of the essential elements in attaining the Company's strategic objectives and maintaining sustainable development, therefore, the Company has formulated the Board Diversity Policy. While determining the composition of the Board of Directors, the Company shall consider the diversity of the Board of Directors from various perspectives, including but not limited to gender, age, cultural and educational background, professional experiences, skills, knowledge and service tenure. The final decisions are made based on the value of candidates and contributions they can bring to the Board of Directors. The appointment of the members of the Board of Directors shall be orientated by the need of skills and experiences of the Board of Directors for its good operation overall, and based on the principle of selecting talented people, while fully considering the abovementioned diversity goal and requirements for diversity. The Nomination Committee will report the composition of the Board of Directors with respect to its diversity level in this Annual Report, and supervise the implementation of the Board Diversity Policy. The Nomination Committee will discuss any amendments to the Board Diversity Policy when necessary and propose such amendments to the Board of Directors pending its approval.

Certain information concerning the incumbent Directors of the Company is set out in the section headed "Directors, Supervisors and Senior Management" of this Annual Report. The current term of all the Directors of the Company will expire on 7 August 2020.

本公司董事會的職能及職責包括：召集股東大會；於股東大會上報告董事會的工作；執行股東大會通過的決議；確定本公司業務計劃及投資計劃；制定本公司年度預算及決算；制定本公司利潤分配方案及關於註冊資本增減的議案；以及行使《公司章程》所賦予的其他權力、職能及職責。本公司與每一位董事訂立了服務合約或委任函。

本公司堅信董事會層面日益多元化是支持其達到戰略目標及維持可持續發展的關鍵因素之一，因此本公司制定了《董事會成員多元化政策》，確定本公司在設定董事會成員構成時，應從多個方面考慮董事會成員多元化情況，包括但不限於性別、年齡、文化及教育背景、專業經驗、技能、知識及服務任期。最終將按人選的價值及可為董事會作出的貢獻而作決定。董事會成員的委任以董事會整體良好運作所需的技能和經驗為本，以選用有才能的人士為原則，同時充分考慮上述董事會成員多元化的目標和要求。提名委員會將每年在年度報告內匯報董事會在多元化層面的組成，並監察《董事會成員多元化政策》的執行。提名委員會也將於有必要時討論任何修訂，再將有關修訂提呈董事會供其批准。

有關本公司現任董事的若干資料載於本年報的「董事、監事及高級管理人員」一節。本公司所有董事的本屆任期將於2020年8月7日屆滿。



## 1.2 Director's Continuous Training and Development

In compliance with the requirement of the Rule A.6.5 of the Code and to ensure that the Directors' contribution to the Board of Directors remains informed and relevant, during the reporting year, the Company arranged and funded suitable training for all the Directors such as holding special training sessions covering topics including to explore the continuous obligations subject to the notifiable transactions under Chapter 14 of the Listing Rules, connected transactions under Chapter 14A of the Listing Rules and the issuer's continuing obligations under Chapter 13 of the Listing Rules.

Besides the trainings provided by the Company, the Directors have also developed their professional skills through various ways including attending different forums, seminars and public lectures.

As of 31 December 2017, all the Directors, namely, Mr. CHEN Dongqing, Mr. ZHANG Jun, Mr. TANG Chaoxiong, Mr. WANG Zhongqu, Mr. ZHANG Wenjian, Mr. GU Yuchun, Mr. YAN Andrew Y., Mr. SHEN Xiaoliu, Mr. QU Jiuhui, Mr. XIE Qiuye, and Mr. YEUNG Chi Tat, have participated in continuous professional development to develop and refresh their knowledge and skills as required by Rule A.6.5 of the Code, in order to ensure that the Directors' contribution to the Board of Directors remains informed and relevant. According to the record of the Board of Directors, the summary of the trainings received by the Directors for the year ended 31 December 2017 is as follows:

## 1.2 董事的持續培訓及發展

遵照《守則》第A.6.5條的規定，並為確保董事在具備全面信息及切合所需的情況下對董事會作出貢獻，在報告年度裡，本公司為所有董事安排了合適的培訓並提供有關經費，例如舉辦特別的培訓會議，就上市規則第14章規定的須予公佈的交易、上市規則第14A章規定的關連交易以及發行人在上市規則第13章下持續責任進行探討。

除接受本公司提供的培訓外，董事還通過各種途徑積極提高其專業技能，包括參加各類論壇、研討會以及公開講座。

截至2017年12月31日止，本公司的所有董事，即陳冬青先生、張軍先生、唐超雄先生、王忠渠先生、張文建先生、顧玉春先生、閻焱先生、申曉留先生、曲久輝先生、謝秋野先生以及楊志達先生均已按照《守則》第A.6.5條的要求參與持續專業發展，發展並更新其知識及技能，以確保其繼續在具備全面諮詢及切合所需的情況下對董事會作出貢獻。根據董事會記錄，截至2017年12月31日止年度董事接受培訓的概要如下：

Name 姓名	Types of Continuous Professional Development Programmes 持續專業發展計劃類別	
<b>Executive Directors</b> 執行董事		
Mr. YANG Guang 陽光先生	(Resigned as chairman and executive director and re-designated as non-executive director on 3 May 2017 and retired as non-executive director on 8 August 2017) (於2017年5月3日辭任主席及執行董事並調任為非執行董事及於2017年8月8日退任董事)	A, B
Mr. CHEN Dongqing 陳冬青先生	(Appointed as Chairman on 3 May 2017 and re-elected on 8 August 2017) (於2017年5月3日就任為主席及於2017年8月8日獲重選)	A, B
Mr. ZHANG Jun 張軍先生	(Appointed as President on 3 May 2017 and re-elected on 8 August 2017) (於2017年5月3日就任為總經理及於2017年8月8日獲重選)	A, B
Mr. TANG Chaoxiong 唐超雄先生	(Re-elected on 8 August 2017) (於2017年8月8日獲重選)	A, B

Name 姓名	Types of Continuous Professional Development Programmes 持續專業發展計劃類別
<b>Non-executive Directors</b> 非執行董事	
Mr. WANG Zhongqu 王忠渠先生	A, B
Mr. ZHANG Wenjian 張文建先生	A, B
Mr. FENG Shuchen 馮樹臣先生	A
Mr. GU Yuchun 顧玉春先生	A, B
Mr. YAN Andrew Y. 閻 焱先生	A
<b>Independent Non-executive Directors</b> 獨立非執行董事	
Mr. SHEN Xiaoliu 申曉留先生	A, B
Mr. QU Jihui 曲久輝先生	A, B
Mr. XIE Qiuye 謝秋野先生	A, B
Mr. FAN Renda Anthony 范仁達先生	A
Mr. YEUNG Chi Tat 楊志達先生	A, B

A: Perusing latest materials for seminars and updates in relation to the Listing Rules and other regulatory requirements

B: Attending the briefing and/or seminars

A: 閱讀有關上市規則及其他適用監管規定最新修訂的研討會材料與更新資料

B: 出席簡介會及/或研討會

### 1.3 Board Meetings

Pursuant to the Articles of Association of the Company, the Board of Directors is required to hold at least four meetings of the Board of Directors (the “**Board Meetings**”) each year, which shall be convened by the Chairman of the Board of Directors. A notice of at least 14 days shall be given for the regular Board meeting. The notice shall state the time, venue and means by which the Board Meetings will be convened.

Except for the consideration by the Board of Directors on matters in relation to connected transactions as set forth in the Articles of Association of the Company, the Board Meetings should be held with the present of a majority of all the

### 1.3 董事會會議

根據《公司章程》的規定，董事會每年至少召開四次會議，董事會會議由董事長召集。定期董事會會議應於召開前至少14天發出通知，通知須列明會議召開的時間、地點以及方式。

除《公司章程》所規定董事會審議關連交易事項的情況外，董事會會議應由大多數董事出席方可舉行。董事可以親自參加董事會會議，亦可以書面委





Directors. A Director may attend the Board Meeting in person, or appoint another Director in writing as his proxy to attend the Board Meeting. The secretary to the Board of Directors is responsible for preparing and keeping the minutes of the Board Meetings and ensuring that such records are available for inspection by any Director.

託其他董事作為其受委代表代為出席董事會會議。本公司董事會秘書負責編製和保管董事會會議記錄，並確保董事能夠查閱該等記錄。

In 2017, the Board of Directors held a total of 13 Board Meetings, the second session of the Board of Directors held six meetings in total and the third session of the Board of Directors held seven meetings. Meanwhile, the Board of Directors held three general meetings. As at 31 December 2017, the Company had 11 directors whose attendance at the Board Meetings and the general meetings is as follows:

於2017年度，董事會共舉行了十三次董事會會議，其中第二屆董事會共舉行了六次會議，第三屆董事會共舉行了七次會議。此外，董事會共召集了三次股東大會。於2017年12月31日，本公司共有11位董事，其出席董事會會議及股東大會情況如下：

**The Second Session and the Third Session of the Board of Directors**  
第二屆及第三屆董事會

Name	Position in the Company	Number of Board Meetings Attended/Held 出席/舉行董事會會議次數	Attendance Rate%	Number of General Meetings Attended/Held*	Attendance Rate%
姓名	本公司職位		出席率%	出席/舉行股東大會會議次數*	出席率%
Mr. CHEN Dongqing	Executive Director and Chairman of the Board of Directors	13/13	100	2/3	67
陳冬青先生	執行董事兼董事長				
Mr. ZHANG Jun <sup>(1)</sup>	Executive Director	7/7	100	1/2	50
張軍先生 <sup>(1)</sup>	執行董事				
Mr. TANG Chaoxiong	Executive Director	13/13	100	1/3	33
唐超雄先生	執行董事				
Mr. WANG Zhongqu	Non-executive Director	13/13	100	1/3	33
王忠渠先生	非執行董事				
Mr. ZHANG Wenjian	Non-executive Director	13/13	100	1/3	33
張文建先生	非執行董事				
Mr. GU Yuchun <sup>(2)</sup>	Non-executive Director	7/7	100	0/2	0
顧玉春先生 <sup>(2)</sup>	非執行董事				
Mr. YAN Andrew Y.	Non-executive Director	13/13	100	0/3	0
閻焱先生	非執行董事				
Mr. SHEN Xiaoliu	Independent Non-executive Director	13/13	100	1/3	33
申曉留先生	獨立非執行董事				
Mr. QU Jihui	Independent Non-executive Director	13/13	100	1/3	33
曲久輝先生	獨立非執行董事				
Mr. XIE Qiuye	Independent Non-executive Director	13/13	100	1/3	33
謝秋野先生	獨立非執行董事				
Mr. YEUNG Chi Tat <sup>(3)</sup>	Independent Non-executive Director	7/7	100	2/2	100
楊志達先生 <sup>(3)</sup>	獨立非執行董事				
Mr. YANG Guang <sup>(4)</sup>	Independent Non-executive Director	6/6	100	0/3	0
楊光先生 <sup>(4)</sup>	獨立非執行董事				

# CORPORATE GOVERNANCE REPORT (CONTINUED)

## 企業管治報告(續)

### The Second Session and the Third Session of the Board of Directors

#### 第二屆及第三屆董事會

Name	Position in the Company	Number of Board Meetings Attended/Held 出席／舉行董事會會議次數	Attendance Rate%	Number of General Meetings Attended/Held* 出席／舉行股東大會會議次數*	Attendance Rate%
姓名	本公司職位		出席率%		出席率%
陽光先生 <sup>(4)</sup> Mr. FENG Shuchen <sup>(5)</sup>	執行董事兼董事長 Executive Director and Chairman of the Board of Directors	6/6	100	0/3	0
馮樹臣先生 <sup>(5)</sup> Mr. FAN Renda Anthony <sup>(6)</sup>	非執行董事 Non-executive Director	6/6	100	0/3	0
范仁達先生 <sup>(6)</sup>	獨立非執行董事				

\* The non-executive directors and independent non-executive directors who were unable to attend the general meeting(s) had been informed of the contents of the general meetings through electronic communication or teleconference.

\* 未能出席股東大會的非執行董事及獨立非執行董事均通過電子通訊或電話會議方式知悉股東大會內容。

(1) Mr. ZHANG Jun joined the third session of the Board of Directors of the Company on 8 August 2017, therefore he did not attend the six meetings and one general meeting convened by the second session of the Board of Directors.

(1) 張軍先生於2017年8月8日加入本公司第三屆董事會，因此沒有出席第二屆董事會召開的六次會議及一次股東大會。

(2) Mr. GU Yuchun joined the third session of the Board of Directors of the Company on 8 August 2017, therefore he did not attend the six meetings and one general meeting convened by the second session of the Board of Directors.

(2) 顧玉春先生於2017年8月8日加入本公司第三屆董事會，因此沒有出席第二屆董事會召開的六次會議及一次股東大會。

(3) Mr. YEUNG Chi Tat joined the third session of the Board of Directors of the Company on 8 August 2017, therefore he did not attend the six meetings and one general meeting convened by the second session of the Board of Directors.

(3) 楊志達先生於2017年8月8日加入本公司第三屆董事會，因此沒有出席第二屆董事會召開的六次會議及一次股東大會。

(4) After the expiration of the tenure for the second session of the Board of Directors on 8 August 2017, Mr. YANG Guang did not participate in the election for the third session of the Board of Directors, therefore he did not attend the meeting convened by the third session of the Board of Directors.

(4) 陽光先生於2017年8月8日第二屆董事會任期屆滿後，未參與第三屆董事會重選，因此沒有出席第三屆董事會召開的會議。

(5) After the expiration of the tenure for the second session of the Board of Directors on 8 August 2017, Mr. FENG Shuchen did not participate in the election for the third session of the Board of Directors, therefore he did not attend the meeting convened by the third session of the Board of Directors.

(5) 馮樹臣先生於2017年8月8日第二屆董事會任期屆滿後，未參與第三屆董事會重選，因此沒有出席第三屆董事會召開的會議。

(6) After the expiration of the tenure for the second session of the Board of Directors on 8 August 2017, Mr. FAN Renda Anthony did not participate in the election for the third session of the Board of Directors, therefore he did not attend the meeting convened by the third session of the Board of Directors.

(6) 范仁達先生於2017年8月8日第二屆董事會任期屆滿後，未參與第三屆董事會重選，因此沒有出席第三屆董事會召開的會議。



#### 1.4 Powers Exercised by the Board of Directors and the Management

The Company performs the following corporate governance duties:

- (a) To formulate and review the corporate governance policies and practices of the Company and make recommendations to the Board of Directors;
- (b) To review and monitor the training and continuing professional development of directors, supervisors and senior management;
- (c) To review and monitor the Company's policies and practices in compliance with legal and regulatory requirements;
- (d) To formulate, review and monitor the details of the work of directors, supervisors and employees, etc.; and
- (e) To review the compliance of the Code and disclosure in corporate governance reports.

The powers and duties of the Board of Directors and the management have been clearly defined in the Articles of Association so as to ensure that adequate check-and-balance is in place for the purpose of maintaining effective corporate governance and internal control.

The Board of Directors is responsible for making decisions on the Company's business and investment plans, determining the establishment of the Company's internal management structure, issuing the Company's essential administration regulations, resolving and approving other material business and administrative matters of the Company and supervising the performance of the management.

Led by the President (and also an executive Director), the management of the Company is responsible for implementing the resolutions passed by the Board of Directors and managing the Company's day-to-day operations.

#### 1.4 由董事會和管理層行使的權力

本公司履行以下企業管治職責：

- (a) 制定及檢討本公司的企業管治政策及常規，並向董事會提出建議；
- (b) 檢討及監察董事、監事及高級管理人員的培訓及持續專業發展；
- (c) 檢討及監察本公司在遵守法律及監管規定方面的政策及常規；
- (d) 制定、檢討及監察董事、監事及僱員的工作細則等；及
- (e) 檢討本公司遵守守則的情況及在企業管治報告內的披露。

董事會和管理層的權力和職責已在《公司章程》中進行了明確規定，以確保為保持有效的公司管治和內部控制提供充分的平衡和制約機制。

董事會負責決定本公司的經營計劃和投資方案，決定本公司內部管理機構的設置，頒佈本公司必要的管理制度，對本公司的其他重大業務和行政事項做出決議並對管理層的履職進行監督。

本公司管理層在總經理(同時亦為執行董事)的領導下，負責執行董事會批准的各項決議，並管理本公司的日常經營。

### 1.5 Chairman and President

The posts of the chairman of the Board of Directors and the president of the Company (i.e. chief executive officer pursuant to the relevant Listing Rules) are separated and convened by different persons in order to ensure the independence of their respective responsibilities, and the balance of power and authority between them. Mr. CHEN Dongqing acts as the chairman of the Board of Directors and Mr. ZHANG Jun acts as the president. The Rules of Procedures of the Board Meeting and the Working Rules of the President, as considered and approved by the Board of Directors, clearly define the division of duties between the chairman of the Board of Directors and the president.

Mr. CHEN Dongqing, the Chairman of the Board of Directors, is responsible for leading the Board of Directors in determining the overall development strategies of the Company and ensuring that the Board of Directors effectively performs its duties and discusses significant and appropriate matters in a timely manner to ensure that the Company establishes effective corporate governance practices and procedures so that the Board of Directors acts in the best interest of the Company and the Shareholders. Mr. ZHANG Jun, the President of the Company, is mainly responsible for the Company's day-to-day operations, including implementing Board resolutions and making day-to-day decisions.

### 1.6 Appointment and Re-election of Directors

Pursuant to the Articles of Association, the Directors, including the non-executive Directors, shall be elected at the general meetings with a term of office for no more than three years and may be re-elected and re-appointed.

The Company has established a set of procedures for appointing new Directors. Nomination of new Directors shall first be considered by the Nomination Committee, whose recommendations will then be presented to the Board of Directors for consideration. All newly nominated Directors are subject to election and approval at general meetings.

Each of the executive Directors of the Company has entered into a service contract with the Company on 8 August 2017, which is preliminarily for a term of three years commencing from 8 August 2017 and each of the non-executive Directors and independent non-executive Directors has entered into a letter of appointment with the Company on 8 August 2017, for a term of three years, with a one-year automatic renewal clause, in compliance with the relevant laws and regulations, and the Articles of Association.

### 1.5 董事長及總經理

本公司董事長和總經理(即相關上市規則條文下之行政總裁)職務分別由不同人士擔任,以確保各自職責的獨立性以及權力和授權的分佈平衡。董事長由陳冬青先生擔任,總經理由張軍先生擔任。董事會審議通過的《董事會議事規則》和《總經理工作細則》,分別對董事長和總經理的職責分工進行了明確清楚的界定。

董事長陳冬青先生負責領導董事會確定本公司的整體發展戰略,確保董事會有效履行其職責,並及時就所有重要的適当事項進行討論,確保本公司得以制定有效的企業管治常規及程序,並確保董事會行事符合本公司及全體股東的最佳利益。總經理張軍先生主要負責本公司的日常運營,包括實施董事會決議及進行日常決策等。

### 1.6 委任及重選董事

根據《公司章程》的規定,董事(包括非執行董事)由股東大會選舉產生,每屆任期不得超過三年,可連選連任。

本公司已就新董事的委任建立了一套有效的程序。新董事的提名事宜先由提名委員會商議,然後再向董事會提交以供審議,並由股東大會選舉通過。

根據相關法律法規及《公司章程》的規定,本公司各執行董事已於2017年8月8日與本公司訂立了服務合約,各服務協議自2017年8月8日起初步為期三年。而各非執行董事及獨立非執行董事亦已於2017年8月8日與本公司訂立了委任函,為期三年,委任函包含自動延期一年的條款。



### 1.7 Directors' Remuneration

The Remuneration and Appraisal Committee makes recommendations in relation to the Directors' remuneration by taking into consideration factors such as educational background and work experience. The Board of Directors determines the Directors' remuneration by considering the Directors' experiences, work performances, positions and market conditions and subject to approval of the general meeting.

## 2. Board Committees

There are four board committees, namely the Audit Committee, the Remuneration and Appraisal Committee, the Nomination Committee and the Strategic Committee (the "**Board Committees**").

On 8 August 2017, the chairmen and members of the third session of Board Committees were appointed on the first 2017 Board Meeting of the third session of the Board of Directors.

### 2.1 Audit Committee

The Audit Committee consists of three Directors: Mr. YEUNG Chi Tat (independent non-executive Director), Mr. SHEN Xiaoliu (independent non-executive Director) and Mr. ZHANG Wenjian (non-executive Director). Mr. YEUNG Chi Tat served as the chairman of the Audit Committee. The primary responsibilities of the Audit Committee are to review and supervise the Company's financial reporting procedures, including:

- Making proposals in respect of the appointment, re-appointment or change of the external auditors to the Board of Directors, approving the remuneration and terms of engagement of external auditors, and handling any issues related to the resignation or dismissal of external auditors;
- Evaluating and examining the independence and objectivity of the external auditors and the effectiveness of the auditing procedures in accordance with the relevant standards;
- Monitoring completeness, accuracy and impartiality of the financial statements of the Company and the Company's accounts, annual reports and interim reports and reviewing significant financial reporting opinions contained in them;

### 1.7 董事薪酬

董事薪酬根據學歷及工作經驗等因素，由薪酬與考核委員會提出建議，經股東大會批准由董事會根據董事經驗、工作表現、職務及市場情況確定。

## 2. 董事會轄下委員會

董事會下設四個委員會(「委員會」)，包括審計委員會、薪酬與考核委員會、提名委員會和戰略委員會。

2017年8月8日，第三屆董事會2017年第一次會議決議委任第三屆董事會委員會主席及成員。

### 2.1 審計委員會

審計委員會由三名董事組成，他們分別是：楊志達先生(獨立非執行董事)、申曉留先生(獨立非執行董事)及張文建先生(非執行董事)。楊志達先生為審計委員會主席。審計委員會的主要職責為審計及監督公司的財務申報程序，包括：

- 就董事會外聘核數師的任命、重新任命或變更提出議案，審批外聘核數師的薪酬與僱傭條款，並處理與外聘核數師辭職或解僱相關的任何問題；
- 根據相關標準評估及審查外聘核數師的獨立性及客觀性和審計程序的有效性；
- 監察本公司財務報表、本公司賬目、年度報告和中期報告的完整性、準確性和公正性，並審查其中重要的財務報告意見；



- Reviewing the Company's financial control, internal control and risk management systems; and
- Taking necessary measures to ensure that employees have a channel to raise concerns in an anonymous manner any possible improprieties in financial reporting, internal control or other matters.

During the Reporting Period, the Audit Committee convened four meetings in total, details of which are as follows:

- On 17 March 2017, the first meeting of the Audit Committee of the second session of the Board of Directors in 2017 was convened, whereby (1) the proposal regarding the Company's 2016 announcement of the annual results (draft) and (2) the proposal regarding the 2016 annual report (draft) was considered and approved.
- On 11 July 2017, the second meeting of the Audit Committee of the second session of the Board of Directors in 2017 was convened, whereby (1) the proposals regarding the Company's reappointment of overseas auditors for 2017; and (2) the proposal regarding the Company's reappointment of overseas auditors to fill vacancy were considered and approved.
- On 24 August 2017, the first meeting of the Audit Committee of the third session of the Board of Directors in 2017 was convened, whereby (1) the proposal regarding the 2017 interim report of the Company (draft); and (2) the proposal regarding the 2017 interim results announcement of the Company (draft) were considered and approved.
- On 25 October 2017, the second meeting of the Audit Committee of the third session of the Board of Directors in 2017 was convened, whereby the proposal regarding the Company's reappointment of domestic auditors for 2017 was considered and approved.

All the members of the Audit Committee attended the above meetings, except for the absence of Mr. ZHANG Wenjian at the first meeting of the Audit Committee of the second session of the Board of Directors in 2017.

- 審查公司的財務控制、內部控制和風險管理系統；及
- 採取必要措施，確保員工能夠以匿名的方式對財務報告、內部控制或其他事項中的任何不當行為提出質疑。

於報告期間，審計委員會共召開了四次會議，每次會議的詳細情況如下：

- 於2017年3月17日召開了第二屆董事會審計委員會2017年第一次會議，審議並通過(1)關於公司2016年年度業績公告(審議稿)的議案；及(2)關於公司2016年報(審議稿)的議案。
- 於2017年7月11日召開了第二屆董事會審計委員會2017年第二次會議，審議並通過(1)關於公司擬續聘2017年度境外審計機構的議案；及(2)關於公司擬聘任境外審計機構以填補空缺的議案。
- 於2017年8月24日召開了第三屆董事會審計委員會2017年第一次會議，審議並通過(1)關於公司2017年中期報告(審議稿)的議案；及(2)關於公司2017年中期業績公告(審議稿)的議案。
- 於2017年10月25日召開了第三屆董事會審計委員會2017年第二次會議，審議並通過關於續聘公司2017年度境內審計機構的議案。

除張文建先生缺席第二屆董事會審計委員會2017年第一次會議外，其他審計委員會委員均出席了上述會議。



## 2.2 Remuneration and Appraisal Committee

The Remuneration and Appraisal Committee consists of three Directors: Mr. QU Jiuhui (independent non-executive Director), Mr. XIE Qiuye (independent non-executive Director) and Mr. WANG Zhongqu (non-executive Director). Mr. QU Jiuhui serves as the chairman of the Remuneration and Appraisal Committee. The primary responsibilities of the Remuneration and Appraisal Committee are to formulate the standards concerning the assessment of the directors and the senior management, assess their performance and determine and review the remuneration policies and plans concerning the directors and the senior management, including:

- Discussing the assessment standards, performance evaluation procedures and remuneration and rewards and punishments of Directors and senior management and submitting the same to the Board of Directors for approval;
- Assessing the duty performance of Directors and senior management of the Company and conducting performance evaluation for them;
- Supervising the implementation of the Company's remuneration system;
- Obtaining the authorization granted by the Board of Directors to consider and determine the specific remuneration package of all the executive Directors and senior management, including non-pecuniary benefits, pension rights and amounts of compensation (including compensation arising from loss or termination of office or appointment) and make recommendations to the Board of Directors on the remuneration of non-executive Directors. The factors to be considered by the Remuneration and Appraisal Committee include the remuneration paid by companies of same kinds, the time devoted by the Directors and the duties of the Directors, the terms of employment of other positions in the Company and whether the remuneration should be determined by performance.

## 2.2 薪酬與考核委員會

薪酬與考核委員會由三名董事組成，他們分別是：曲久輝先生(獨立非執行董事)、謝秋野先生(獨立非執行董事)及王忠渠先生(非執行董事)。曲久輝先生為本公司薪酬與考核委員會主席。薪酬與考核委員會的主要職責為制定評估董事及高級管理人員的標準及對彼等的表現進行評估；釐定、審閱董事及高級管理層相關的薪酬政策及計劃，其中包括：

- 研究董事與高級管理人員考核的標準、績效評價程序和薪酬及獎懲辦法，提交董事會批准；
- 評審公司董事和高級管理人員的履職情況並對其進行績效考核評價；
- 對公司薪酬制度執行情況進行監督；
- 獲得董事會授權，考量確定全體執行董事及高級管理人員的特定薪酬待遇，包括非金錢利益、退休金權利及賠償金額(包括喪失或終止職務或委任的賠償)，並就非執行董事的薪酬向董事會提出建議。薪酬與考核委員會應考慮的因素包括同類公司支付的薪酬、董事須付出的時間及董事職責、公司內其他職位的僱用條件及是否應該按表現釐定薪酬等。

During the Reporting Period, the Remuneration and Appraisal Committee convened two meetings in total, details of which are as follows:

- On 17 March 2017, the first meeting of the Remuneration and Appraisal Committee of the second session of the Board of Directors in 2017 was convened, whereby the proposal regarding the remuneration of the Company's directors, supervisors and senior management for 2017 was considered and approved.
- On 5 June 2017, the second meeting of the Remuneration and Appraisal Committee of the second session of the Board of Directors in 2017 was convened, whereby the proposal regarding the adjustment of remuneration of the overseas independent non-executive directors was considered and approved.

All the members of the Remuneration and Appraisal Committee attended the above meetings.

### 2.3 Nomination Committee

The Company's Nomination Committee consists of three Directors: Mr. XIE Qiuye (independent non-executive Director), Mr. QU Jiuhui (independent non-executive Director) and Mr. TANG Chaoxiong (executive Director). Mr. XIE Qiuye is the chairman of the Nomination Committee. The primary responsibilities of the Company's Nomination Committee are to formulate the procedures and standards for nominating candidates as Directors and senior management, and conduct preliminary review of the qualifications and other credentials of the candidates for Directors and senior management. In addition, according to the Members of the Board Diversity Policy (the "**Policy**"), the Nomination Committee is responsible for supervising execution of the Policy. The Nomination Committee will also discuss any possible amendments and propose the amendments to the Board of Directors for its review and approval, so as to ensure the effectiveness. The Nomination Committee is of the opinion that the composition of the Board of Directors during the Reporting Period satisfied the requirements of the Policy.

在報告期間，薪酬與考核委員會共召開了兩次會議，每次會議的詳細情況如下：

- 於2017年3月17日召開了第二屆董事會薪酬與考核委員會2017年第一次會議，審議並通過了公司董事、監事及高級管理人員2017年度薪酬的議案。
- 於2017年6月5日召開了第二屆董事會薪酬與考核委員會2017年第二次會議，審議並通過關於調整境外獨立非執行董事薪酬的議案。

薪酬與考核委員會全體委員均出席了上述會議。

### 2.3 提名委員會

本公司的提名委員會由三名董事組成，他們分別是：謝秋野先生(獨立非執行董事)、曲久輝先生(獨立非執行董事)及唐超雄先生(執行董事)。謝秋野先生為提名委員會主席。本公司提名委員會的主要職責為制定董事及高級管理人員人選的提名程序及標準、對董事及高級管理人員人選的資格及其他資歷進行初步審閱。此外，根據《董事會成員多元化政策》(「**該政策**」)，提名委員會負責監察該政策的執行。提名委員會亦會討論任何需要做出的修訂並提呈予董事會供其審批，以確保行之有效。提名委員會認為於報告期內的董事會成員組成符合該政策的要求。



During the Reporting Period, the Nomination Committee convened three meetings in total, details of which are as follows:

- On 25 April 2017, the first meeting of the Nomination Committee of the second session of the Board of Directors in 2017 was convened, whereby (1) the proposal regarding the nomination of the Company's chairman; (2) the proposal regarding the change of the Company's directors; and (3) the proposal regarding the nomination of the Company's president was considered and approved.
- On 5 June 2017, the second meeting of the Nomination Committee of the second session of the Board of Directors in 2017 was convened, whereby the proposal regarding the nomination and review for candidates of the third session of the Board of Directors was considered and approved.
- On 11 July 2017, the third meeting of the Nomination Committee of the second session of the Board of Directors in 2017 was convened, whereby the proposal regarding the appointment of the vice president of the Company was considered and approved.

All the members of the Nomination Committee attended the above meetings.

#### 2.4 Strategic Committee

The Company's Strategic Committee consists of five Directors: Mr. CHEN Dongqing (executive Director and chairman), Mr. SHEN Xiaoliu (independent non-executive Director), Mr. GU Yuchun (non-executive Director), Mr. YAN Andrew Y. (non-executive Director) and Mr. ZHANG Jun (executive Director and President). Mr. CHEN Dongqing serves as the chairman of the Strategic Committee. The primary responsibilities of the Strategic Committee are to formulate the Company's overall development plans and investment decision-making procedures, including:

- Reviewing the Company's long-term development strategies;
- Reviewing the Company's strategic plans and implementation reports;
- Reviewing significant capital expenditure, investment and financing projects subject to the approval of the Board of Directors; and

於報告期間，提名委員會共召開了三次會議，每次會議的詳細情況如下：

- 於2017年4月25日召開第二屆董事會提名委員會2017年第一次會議，審議並通過(1)關於提名公司董事長的議案；(2)關於變更公司董事的議案；及(3)關於提名公司總經理的議案。
- 於2017年6月5日召開第二屆董事會提名委員會2017年第二次會議，審議並通過關於建議及審核公司第三屆董事會成員人選的議案。
- 於2017年7月11日召開第二屆董事會提名委員會2017年第三次會議，審議並通過關於聘任公司副總經理的議案。

提名委員會全體委員均出席了上述會議。

#### 2.4 戰略委員會

本公司的戰略委員會由五名董事組成，他們分別是：陳冬青先生(執行董事兼董事長)、申曉留先生(獨立非執行董事)、顧玉春先生(非執行董事)、閻焱先生(非執行董事)和張軍先生(執行董事兼總經理)。陳冬青先生為戰略委員會主席。戰略委員會的主要職責為制定本公司的整體發展計劃及投資決策程序，包括：

- 審閱本公司的長遠發展戰略；
- 審閱本公司的戰略規劃及實施報告；
- 審閱須董事會批准的重大資本支出、投資及融資項目；及

- Authorizing the management meeting of the Company to formulate specific plans, negotiate and implement relevant review and approval procedures, execute contracts and relevant documents, and handle relevant procedures for the above matters.

During the Reporting Period, the Strategic Committee convened one meeting in total, details of which are as follows:

- On 8 September 2017, the first meeting of the Strategic Committee of the third session of the Board of Directors in 2017 was convened, whereby the proposal on the acquisition of 100% equity interest in Lantian Company by Longyuan Energy Saving was considered and approved.

All the members of the Strategic Committee attended the above meeting.

### 3. Director's Responsibility for the Financial Statements

The Board of Directors acknowledges its responsibility for preparing the Financial Statements of the Group for the Reporting Period.

The Board of Directors is responsible for presenting a clear and understandable assessment report in respect of the financial statements for 2017 and other issues required to be disclosed pursuant to the Listing Rules and other monitoring regulations. The management has provided such explanations and information to the Board of Directors as necessary to enable the Board of Directors to make an informed assessment of the financial information and position of the Group.

There are no material uncertainties relating to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern.

In addition, appropriate insurance coverage for Directors' liabilities has been arranged against potential legal proceedings to be taken against the Directors.

- 授權本公司辦公會對上述各項制定具體方案、協商並實施相關審批程序、簽署合約及相關文件、辦理相關手續等。

在報告期間，戰略委員會共召開了一次會議，會議的詳細情況如下：

- 於2017年9月8日召開第三屆董事會戰略委員會2017年第一次會議，會議審議並通過關於龍源節能收購藍天公司100%股權的議案。

戰略委員會全體委員均出席了上述會議。

### 3. 董事對財務報表承擔的責任

董事會已確認其承擔編製本集團於報告期間財務報表的責任。

董事會負責就2017年度的財務報表以及根據上市規則和其他監管條文規定需要進行披露的其他事宜制定一份清晰易懂的評估報告。管理層已經向董事會提交了必要的解釋和數據，確保董事會能夠就財務信息和集團的地位作出有根據的評估。

本公司並無面臨可能對本公司持續經營業務之能力產生重大疑慮的事件或情況。

另外，董事可能面對的法律訴訟方面，本公司已為其可能招致的責任作出適當的投保安排。





#### 4. Compliance with the Model Code for Securities Transactions

The Company has adopted the Model Code for Securities Transactions by Directors of Listed Issuers (“**Model Code**”) set out in Appendix 10 to the Listing Rules as the code of conduct and rules governing dealings by all Directors and Supervisors in the securities of the Company. After specific enquiries were made by the Company to them, all Directors and Supervisors have confirmed that they have strictly complied with the required standard set out in the Model Code for the Reporting Period.

To ensure the compliance with the relevant requirements under the Listing Rules and to protect the Shareholders’ interests, the Board of Directors will examine the corporate governance practices and the operations of the Company from time to time.

#### 5. Risk Management and Internal Control

The Company places prime importance to risk management and internal control. An internal control system has been established to protect the Shareholders’ and the Company’s interests.

The Board of Directors is responsible for the internal control and risk management systems of the Company and its subsidiaries, reviewing and approving significant policies and reviewing the effectiveness of the internal control and risk management systems. Such systems are designed to mitigate risks inherent in our business faced by the Group to an acceptable level, but not eliminating all risks. Accordingly, such systems can only provide reasonable and not absolute assurance against material misstatement in financial information or financial loss.

##### **Internal Control**

The Company has set up a set of internal control rules, including “Rules and Procedures of the General Meeting”, “Rules and Procedures of the Board Meeting”, “Rules and Procedures of the Supervisor Meeting”, “Terms of References for the Strategic Committee of the Board of Directors”, “Terms of References for the Audit Committee of the Board of Directors”, “Terms of References for the Nomination Committee of the Board of Directors”, “Terms of References for the Remuneration and Appraisal Committee of the Board of Directors”, “Provisions on Information Disclosure”, “Administrative Measures on Connected Transactions”, “Administrative Measures on Comprehensive Risk” and “Internal Control Principle Policy”.

#### 4. 遵守證券交易標準守則

本公司已採納上市規則附錄10所載上市公司董事進行證券交易的標準守則(「**標準守則**」)，作為所有董事及監事進行本公司證券交易的行為守則。根據對本公司董事及監事的專門查詢後，所有董事及監事均確認：於報告期間，各董事及監事均已嚴格遵守標準守則所訂之標準。

董事會將不時檢查本公司的企業管治、常規及運作，以確保符合上市規則有關規定並保障股東的利益。

#### 5. 風險管理及內部控制

本公司高度重視風險管理及內部控制工作，已建立了一套內部控制體系，以保障股東利益和本公司利益。

董事會對本公司及其附屬公司的內部監控及風險管理系統負有責任，審閱及批准重大政策以及檢討內部監控及風險管理系統的有效性。該等系統旨在緩解本集團在業務中面臨的內在風險至可接受的程度，而非消除所有風險。因此，該等系統僅對可防範財務資料中的重大失實陳述或財務損失提供合理而非絕對保證。

##### **內部控制**

本公司建立了一套內部控制規程，包括《股東大會議事規則》、《董事會議事規則》、《監事會議事規則》、《董事會戰略委員會工作細則》、《董事會審計委員會工作細則》、《董事會提名委員會工作細則》、《董事會薪酬與考核委員會工作細則》、《信息披露事務管理規定》、《關連交易管理辦法》、《全面風險管理辦法》及《內部控制基本制度》。

The Company has also established the finance and property department, the audit department and the supervision department and has sufficient personnel in each department in charge of financial operations, risk management, internal auditing and anti-corruption work. Besides, the Company has provided regular training to the Group's employees whose duties relate to finance, risk management and internal auditing so as to ensure that they are well qualified and experienced.

Each department of the Company is able to smoothly submit to the Board of Directors the information required. The President is the most senior point of contact for each department of the Company who has the duty to effectively report to the Board of Directors in relation to the operations of each department, and to coordinate and mobilize the demands of each department to promote reasonable decision-making among the Company. The Audit Committee is responsible for reviewing the financial control, internal control and risk management systems of the Company; discussing the internal control system with the management to ensure that the management has fulfilled its duties to establish an effective internal control system; taking the initiatives or appointed by the Board of Directors to conduct researches on important findings of and the management's responses to internal control matters.

The Group communicated in timely manner on the identified flaws of significant internal control and carefully assessed the potential risks. As a supervisor, the department put forward corrective actions, and obtained the approval from the leadership prior to its implementation. Leadership and the audit department monitored its implementation to ensure monitoring flaws resolved timely and properly.

### **Risk Management**

System construction: At present, the Group's comprehensive risk management system pilot construction has completed "three bases, two handbooks, one report, one standard" (that is, risk information database, risk case database, risk index database, risk operation handbook and internal control handbook, internal control evaluation standard and internal control evaluation report), initially realizing the standardization and systematization of risk management and internal control.

本公司已設立了財務產權部、審計部和監察部，並為各個部門配備了充足的人員，負責財務運作、風險管理、內部審計、反腐敗等具體工作。此外，本公司亦定期為本集團內部負責財務、風險管理、內部審計的員工提供培訓，確保其擁有足夠的資質和經驗。

本公司每個部門都能將需要呈交董事會的數據順暢呈交。總經理作為與本公司各部門的最高對接口，有責任將各部門的運作有效地呈報董事會，並配合及調動各部門的需求，推動本公司內部的合理決策。審計委員會負責審查公司的財務控制、內部控制及風險管理制度；與管理層討論內部控制系統，確保管理層已履行職責確立有效的內部控制系統；主動或應董事會的委派，就有關內部控制事宜的重要調查結果及管理層的回應進行研究。

本集團及時就所識別的重大內部監控瑕疵進行溝通，並審慎評估潛在風險。身為監控責任人的部門提出糾正措施，並於實施前獲得領導層批准。領導層及審計部監察實施情況，確保及時妥善解決監控瑕疵。

### **風險管理**

制度建設：目前本集團的全面風險管理體系試點建設已完成了「三庫、兩冊、一報告、一標準」(即風險信息庫、風險案例庫、風險指標庫、風險操作手冊和內部控制手冊、內控評價標準及內部控制評價報告)的編製，初步實現風險管理和內部控制的標準化與體系化。



Architectural construction: The Group's overall risk management system has extended laterally to every department horizontally and vertically to every unit. The Board of Directors is the highest decision-making organization in respect of overall risk management. The officer of each department is responsible for organizing and carrying out daily work in respect of comprehensive risk management. The Company has set up a leadership group for the construction of risk management system led by the president and composed members of the heads of departments, and also established an overall risk management leadership group at every specific unit, clearly defining the management responsibilities at all levels.

Work implementation: Leadership interviews, risk questionnaires, etc., risk identification, risk assessment and risk response and other risk management processes have been implemented for internal control and key business processes. This year, a total of five first-level risks, 83 second-level risks, 114 third-level risks and 494 fourth-level risks were tackled; and risk management strategies and solutions were developed for the above risks.

In order to promote the enthusiasm of all staff to participate in risk management, the Group also fosters risk management culture by enhancing risk management training, and multi-channel and multi-media publicity.

In 2017, the Group took the Company and four subsidiaries as pilot, carried out the internal control evaluation by way of internal and external integration or independent implementation. The evaluation covers financial management, operation monitoring, compliance monitoring and risk management. And in January 2018, the overall internal control self-evaluation of the Group for 2017 was completed. The Group is not aware of any material weaknesses nor any material defaults in respect of financial, operational and compliance controls and risk management. The Board of Directors believes that the current monitoring system of the Company is effective and adequate and considers that the resources, qualifications and experiences of the staff of the Company's accounting and financial reporting functions, its training programs and budgets thereof are adequate. The Board of Directors will continue to monitor the risk management and internal control systems in the following year and plan to set up the risk management committee under the Board of Directors.

體系建設：本集團的全面風險管理體系橫向到部門，縱向到單位。公司董事會是全面風險管理的最高決策機構，各部門主任負責組織開展全面風險管理日常工作，成立了以總經理為組長、各部門負責人為成員的風險管理體系建設領導小組；同時在所屬單位成立以總經理為組長的全面風險管理領導小組，明確各級管理職責。

工作實施：通過開展領導人員訪談及風險問卷調查等方法，對內部控制及重要業務流程執行風險識別、風險評估與風險應對等風險管理工作流程，本年度共梳理一級風險5項，二級風險83項，三級風險114項，四級風險494項，並針對上述風險編製了風險管理策略和風險管理解決方案。

為提升全員參與風險管理的積極性，本集團還通過加大風險管理培訓和多渠道、多媒體宣貫，培育全員參與的風險管理文化。

2017年本集團通過內外結合或自主實施的方式，以本部以及四家附屬公司為試點開展內部控制評價工作，評價範圍涵蓋財務監控、運作監控、合規監控及風險管理等各項重大方面。並於2018年1月完成了2017年集團整體內部控制自評價工作，未發現本公司內部控制存在任何重大弱項，或出現任何重大失誤。董事會認為本公司目前的內部監控體系是有效及足夠的，並認為本公司在會計及財務匯報職能方面的資源、員工的資歷和經驗以及員工培訓計劃及有關預算方面是足夠的。董事會於來年會持續監控本集團的風險管理及內部監控系統，並計劃在董事會下設立風險管理委員會。

### **Management of Inside Information**

In order to promote fairness, transparency, accountability and responsibility, which are the core principles of good corporate governance, the Group notifies the Stock Exchange and discloses to Shareholders and other holders of its listed securities of the Group's inside information in a timely manner pursuant to the Listing Rules and Part XIVA of the Securities and Futures Ordinance (“SFO”).

In order to monitor and regulate potential insider trading activities, and to ensure the confidentiality of inside information, the Company has established a set of “Management Rules on Inside Information of Guodian Technology & Environment Group Corporation Limited” in accordance with “the Company Law of the PRC”, SFO, “Listing Rules” and other relevant laws and regulations and the requirements of the Articles of Association. The management of the registration of inside information shall be the responsibility of the Board of Directors; the secretary of the Board of Directors shall organize the implementation of the registration of inside information; the department of securities financing and legal affairs (the office of the Board of Directors) shall be responsible for the judgment and disclosure of inside information and improve the management over the registration management of insiders of inside information; and all the departments and subsidiaries shall report matters that may involve inside information to the department of securities financing and legal affairs. Once the inside information involves disclosure requirements and has the conditions for disclosure, an announcement will be issued in a timely manner according to the applicable information disclosure procedures and the obligation to disclose information will be fulfilled.

### **6. Auditors and Remuneration**

KPMG was appointed as auditor for the financial statements prepared in accordance with the International Financial Reporting Standards for the Reporting Period.

For the Reporting Period, the fees payable to KPMG was RMB8.13 million.

For the Reporting Period, the fee payable to KPMG for non-auditing services related to the review of the Company's interim financial report was RMB3.65 million.

KMPG, the Company's external auditor's responsibilities for the financial statements are set out on pages 180 to 182 of this Annual Report.

### **內幕信息管理**

為推行良好公司管治的核心原則，即公正、透明、問責及負責，本集團會適時根據上市規則及《證券及期貨條例》第XIVA部向聯交所、股東及其上市證券的其他持有人披露本集團的內幕信息。

為監管和規範潛在內幕交易行為，確保內幕信息保密工作，本公司根據《中華人民共和國公司法》、《證券及期貨條例》、上市規則等有關法律法規及《公司章程》的規定，制定《國電科技環保集團股份有限公司內幕信息管理辦法》。內幕信息的登記管理工作由董事會負責，董事會秘書組織實施，由董事會的日常辦事機構證券融資與法律事務部（董事會辦公室）負責內幕信息的判斷及披露工作，完善內幕信息知情人的登記管理，由各部門及附屬公司向證券融資與法律事務部報送可能涉及內幕信息的事項。一旦內幕信息觸及披露要求、具備披露條件時，將按照信息披露程序及時發佈公告，履行信息披露義務。

### **6. 核數師及其酬金**

畢馬威會計師事務所獲委任為審計於報告期間按照國際財務報告準則編製的財務報表的核數師。

於報告期間，就畢馬威會計師事務所提供的審計服務應付的費用為人民幣8,130千元。

於報告期間，應向畢馬威會計師事務所支付的與審閱本公司中期財務報告相關的非審計服務費為人民幣3,650千元。

畢馬威會計師事務所作為本公司外聘核數師對財務報表的責任，載於本年報第180頁至第182頁。



## 7. Communications with Shareholders

The Company highly appreciates Shareholders' opinions and advice, actively organizes various investor relations-related activities to maintain communication with the Shareholders and timely responds to reasonable requests of Shareholders.

### 7.1 Convening Extraordinary General Meetings by Shareholders

According to the Articles of Association, two or more Shareholders holding more than 10% of the shares carrying the right to vote at the meeting sought to be held may sign one or more counterpart requisitions requiring the Board of Directors to convene an extraordinary general meeting and stating the objectives of the meeting. The Board of Directors shall, in accordance with the relevant laws and regulations and the Articles of Association, furnish a written reply stating its agreement or disagreement to convene the extraordinary general meeting within ten days upon receipt of such requisition. If the Board of Directors agrees to convene the extraordinary general meeting, a notice for convening the extraordinary general meeting shall be issued within five days upon adoption of the resolution by the Board of Directors.

If the Board of Directors does not agree to convene the extraordinary general meeting, or if it fails to give its feedback in writing within ten days upon receipt of such requisition, the Shareholders individually or jointly holding an aggregate of more than 10% of the shares carrying the right to vote at the meeting sought to be held shall be entitled to propose to the Board of Supervisors to convene an extraordinary general meeting, and shall submit its proposal in writing to the Board of Supervisors. If the Board of Supervisors agrees to convene the extraordinary general meeting, a notice for convening such meeting shall be issued within five days upon receipt of such requisition.

If the Board of Supervisors fails to issue a notice for such meeting within the prescribed period, the Board of Supervisors shall be deemed not to convene and preside at the meeting, and the Shareholders individually or jointly holding an aggregate of more than 10% of the shares of the Company for more than 90 consecutive days themselves may convene and preside at the meeting at their own discretion.

If the Board of Directors does not issue a notice of meeting within 30 days upon receipt of the aforesaid written requisition, the requisitioning Shareholders themselves may convene such a meeting according to procedures as similar as possible to that in which general meeting are to be convened by the Board of Directors within four months from the date of receipt of the requisition by the Board of Directors.

## 7. 與股東的溝通

本公司高度重視股東的意見和建議，積極開展各類與投資者相關的活動與股東保持溝通，及時滿足各股東的合理需求。

### 7.1 股東召開臨時股東大會

根據《公司章程》，合計持有在該擬舉行的會議上有表決權的股份10%以上的兩個或兩個以上的股東，可以簽署一份或數份同樣格式內容的書面要求，提請董事會召集臨時股東大會，並闡明會議的議題。董事會應當根據法律法規和《公司章程》的規定，在收到請求後十日內提出同意或不同意召開臨時股東大會的書面反饋意見。若董事會同意召開臨時股東大會，應當在作出董事會決議後五日內發出召開會議的通知。

若董事會不同意召開臨時股東大會，或者在收到請求後十日內未作出書面反饋，單獨或者合計持有在該擬舉行的會議上有表決權的股份10%以上的股東有權向監事會提議召開臨時股東大會，並應當以書面形式向監事會提出請求。若監事會同意召開臨時股東大會，應在收到請求五日內發出召開會議的通知。

若監事會未在規定期限內發出會議通知，視為監事會不召集和主持股東大會，連續九十日以上單獨或者合計持有本公司10%以上股份的股東可以自行召集和主持會議。

如果董事會在收到前述書面要求後三十日內沒有發出召集會議的通告，提出該要求的股東可以在董事會收到該要求後四個月內自行召集會議，召集的程序應當盡可能與董事會召集股東會議的程序相同。



## 7.2 Putting Forward Proposals at the General Meetings

According to the Articles of Association, when the Company convenes a general meeting, the Shareholders individually or jointly holding more than 3% of the shares of the Company shall have the right to propose motions. The Shareholders holding more than 3% of the shares of the Company shall have the right to propose ad hoc motions in writing, and the Company shall include matters in the proposed ad hoc motions within the scope of duties and responsibilities of the general meetings on the agenda, if the criteria as specified in the Articles of Association are met.

## 7.3 Investor Relations Activities

The Group has received questions from visiting investors, analysts and press thoughtfully and has considered and answered their related questions efficiently and accurately; the Group has paid close attention to the developing trends in the market, and always communicated with the public in a realistic, objective and compliant way.

### 7.3.1 Results Road Shows

On 30 August 2017, the Company organized one 2017 interim results road show event in Hong Kong.

### 7.3.2 Investors' Routine Visits

During the Reporting Period, the Company received 32 groups of investors and analysts by way of one-to-one/group/telephone meetings, totaling 38 people.

## 7.4 Putting Forward Enquiries to the Board of Directors

According to the Articles of Association, all the Directors shall attend general meetings. The Shareholders may present enquiries to the Board of Directors at such general meetings. If the Shareholders need to contact the Board of Directors for enquiries, they are also welcome to send enquiries directly to the Company, contact details of which are as follows:

## 7.2 在股東大會提出建議

根據《公司章程》，公司召開股東大會，單獨或合計持有公司3%以上股份的股東有權向本公司提出提案。單獨或合計持有本公司3%以上股份的股東，有權以書面形式向本公司提出臨時提案，倘《公司章程》所列的要求均已滿足，則本公司應將該臨時提案中屬股東大會職責範圍內的事項列入會議日程。

## 7.3 投資者關係活動

本集團周密安排、認真接待投資者、分析師、新聞媒體的來訪，高效、準確地回答相關問題；密切關注市場發展趨勢，始終以真實、客觀、合規的角度與公眾進行溝通。

### 7.3.1 業績路演

本公司於2017年8月30日在香港組織了一次2017年中期業績路演活動。

### 7.3.2 投資者日常來訪

報告期內，本公司以一對一會議／小組會議／電話會議方式接待投資者、分析師32批次，共計38人。

## 7.4 向董事會提出查詢

根據《公司章程》，全體董事都應當出席股東大會，股東可以在股東大會上向董事會提出查詢。如果股東因查詢而需聯繫董事會，他們也可以直接將查詢函發送至本公司，具體聯繫方式如下：



Attention: Office of the Board of Directors  
Address: Suite 1225, Building 1  
Yard 16  
W. 4th Ring Rd  
Haidian Dist.  
Beijing, PRC  
Postal code: 100039  
Telephone: 010-5765 7777  
Fax: 010-5765 9705  
Email: board@kh.cgdc.com.cn

收件人：董事會辦公室  
地址：中國北京市  
海淀區  
西四環中路  
16號院1號樓  
1225室  
郵編：100039  
電話：010-5765 7777  
傳真：010-5765 9705  
電子郵件：board@kh.cgdc.com.cn

For the avoidance of doubt, the Shareholder(s) must deposit and send the original duly signed written enquiry or correspondence of any type to the above address, and provide his or her full name, contact details and proof of identification in order to give effect thereto.

為免生疑，股東須將正式簽署的書面查詢原件或其他形式的信函送交或寄送至上述地址，並提供全名、聯繫方式詳情以及身份證明，方告生效。

#### 7.5 Disseminating Information through the Internet

In order to promote good corporate governance and increase transparency, the Company has set up a website ([www.01296.hk](http://www.01296.hk)) as a channel to disseminate information. The Company implements procedures to vet information which is to be put on its website and also monitors its website to ensure that all published information is up-to-date and accurate.

#### 7.5 互聯網信息發佈的管理工作

為提升企業管治水平和增加企業透明度，本公司設立網站([www.01296.hk](http://www.01296.hk))並使用互聯網作為發放資料的渠道，本公司執程序審閱即將登載在其網站上的信息，同時監察其網站，以確保所有公佈的信息都是最新的並且是正確的。

#### 7.6 Overseas Regulatory Announcement

As Longyuan Technology, a subsidiary of the Company, is a public company listed on the Shenzhen Stock Exchange, the Company has complied with the requirements regarding overseas regulatory announcements in accordance with Rule 13.10(B) of the Listing Rules.

#### 7.6 海外監管公告

由於本公司的附屬公司龍源技術於深圳證券交易所上市，本公司已根據上市規則第13.10(B)條遵守海外監管公告的相關規定。

Furthermore, as the corporate bonds of the Company are listed on the Shanghai Stock Exchange, the Company has complied with the requirements regarding overseas regulatory announcements in accordance with Rule 13.10(B) of the Listing Rules in this regard.

此外，由於本公司的公司債券在上海證券交易所上市，本公司已根據上市規則第13.10(B)條遵守海外監管公告的相關規定。

## 8. Joint Company Secretaries

Mr. CAI Zhaowen is the secretary to the Board of Directors and the joint company secretary (appointed on 30 March 2017) and also the major contact person of the Company. Please refer to the section headed "Directors, Supervisors and Senior Management – Company Secretary" for further information.

Ms. MOK Ming Wai is the joint company secretary of the Company. She is a director and head of Listing Services Department of TMF Hong Kong Limited.

In 2017, Mr. CAI Zhaowen and Ms. MOK Ming Wai took not less than 15 hours of relevant professional training in compliance with Rule 3.29 of the Listing Rules.

## 9. Amendments to the Articles of Association

The amendments to the Articles of Association was considered and approved at the 2016 annual general meeting convened on 26 May 2017 and the second extraordinary general meeting 2017 convened on 29 December 2017 in the form of special resolutions. The amendments to the Articles of Association include incorporating the content of Party building into the Articles of Association to implement the requirements of the Instruction on Deepening the reform of State-owned enterprises of CPC Central Committee; modifying the convening mode, voting mode and record mode of the general meeting, etc, according to the update requirement of laws and regulations such as listing rule, cancelling the fixed setup of vice chairman, adjusting the composition and positions of senior management and modifying the names of controlling shareholders, etc. For the change details of the Articles of Association, please refer to the announcements of the Company on 30 March 2017 and 9 November 2017 and the circulars of the Company on 26 April 2017 and 12 December 2017.

## 8. 聯席公司秘書

蔡兆文先生為本公司董事會秘書及聯席公司秘書(於2017年3月30日委任)，亦為本公司內部之主要聯絡人。請參閱名為「董事、監事和高級管理人員－公司秘書」的章節以獲得進一步信息。

莫明慧女士為達盟香港有限公司董事兼上市公司服務部主管，本公司之外聘聯席公司秘書。

於2017年，蔡兆文先生及莫明慧女士已遵守上市規則第3.29條之規定完成不少於15小時的相關專業培訓。

## 9. 對《公司章程》的修改

公司章程修改以特別議案形式經2017年5月26日召開的2016年股東週年大會，及2017年12月29日召開的2017年第二次臨時股東大會審議通過。對本公司章程的修改包括為貫徹中共中央《關於深化國有企業改革的指導意見》要求，將黨建內容納入章程；根據上市規則等法律法規的更新要求，修改股東大會召集方式、表決方式、記錄方式等，取消副董事長的固定設置，調整高級管理人員的組成及設置，修改控股股東名稱等。關於公司章程的修改詳情，請參見本公司2017年3月30日、2017年11月9日的公告及2017年4月26日、2017年12月12日的通函。



## 10. Connected Transaction Management

In order to strengthen the Company's management of connected transactions, the Company has established the "Management Rules on the Conduct of Connected Transactions of Guodian Technology & Environment Group Corporation Limited" and has designated the Department of Securities Financing and Legal Affairs and Finance and Property Division for the management of connected transactions. In order to ensure that the Company's connected transactions are carried out in accordance with the relevant rules and regulations and that the aggregated transaction amounts do not exceed the annual caps, the Company has notified all the subsidiaries and departments regarding the applicable continuing connected transaction caps, allocated monitoring obligations to specific subsidiaries and departments and required such subsidiaries or departments to report to the senior management regarding the connected transactions. The Group has provided regular training to internal staff in relation to connected transactions from time to time, and has designated specialized personnel in an effort to ensure full compliance with the relevant Listing Rules.

## 11. Emoluments of Directors and Senior Management

Details of the emoluments of Directors for the Reporting Period are set out in Note 9 to the Financial Statements.

The emoluments of senior management (exclusive of Directors) for the Reporting Period are within the following bands:

<b>Emoluments Band (RMB)</b> 薪酬範圍(人民幣元)	<b>2017</b> <i>Number of</i> <b>Individuals*</b> 2017年人數*	2016 <i>Number of</i> <i>Individuals</i> 2016年人數
400,000以下 (Less than 400,000)	<b>0</b>	2
400,000–600,000	<b>1</b>	1
600,000以上 (More than 600,000)	<b>6</b>	3
Total 合計	<b>7</b>	6

\* Including Mr. YANG Dong who resigned on 21 February 2017.

## 10. 關連交易管理

為強化本公司的關連交易管理，本公司已建立「國電科技環保集團股份有限公司關連交易管理辦法」，並指定證券融資與法律事務部及財務產權部管理關連交易。為確保本公司關連交易乃根據適用條例和法規實施以及交易總額不超過年度上限，本公司已將適用持續關連交易上限通告所有附屬公司和部門，將監控職責具體到各個附屬公司和部門，並要求該等附屬公司和部門就關連交易報告高級管理層。本集團為內部職工提供不時培訓，並指定專人確保完全遵守相關上市規則。

## 11. 董事及高級管理人員薪酬

各董事於報告期間的薪酬詳情載於財務報表附註9。

於報告期間高級管理人員(除董事外)的薪酬範圍如下：

\* 包括於2017年2月21日辭任的楊東先生。

# SUMMARY OF HUMAN RESOURCES

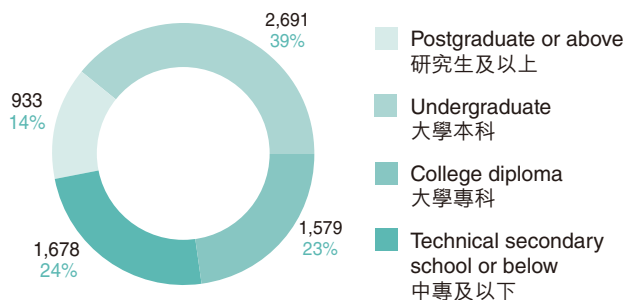
## 人力資源概況

As at 31 December 2017, the Group had a total of 6,881 staff, of which 4,899 or 71.2% were male, while 1,982 or 28.8% were female. The staff structure is as follows:

於2017年12月31日，本集團共有員工6,881人，其中男性僱員4,899人，佔71.2%；女性僱員1,982人，佔28.8%。人員構成情況如下：

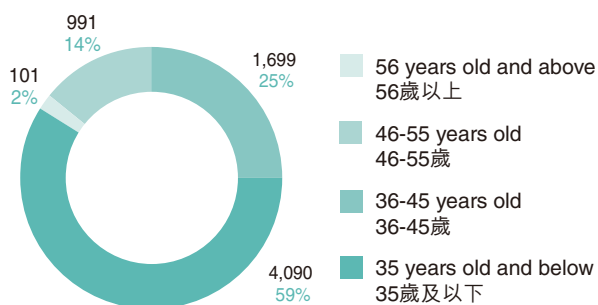
**Table 1: Analysis of the Group's staff by academic qualification (the number and percentage of staff)**

圖一：本集團按學歷劃分的員工分析(人數及百分比)



**Table 2: Analysis of the Group's staff by age (the number and percentage of staff)**

圖二：本集團按年齡劃分的員工分析(人數及百分比)





## SUMMARY OF HUMAN RESOURCES (CONTINUED)

### 人力資源概況(續)

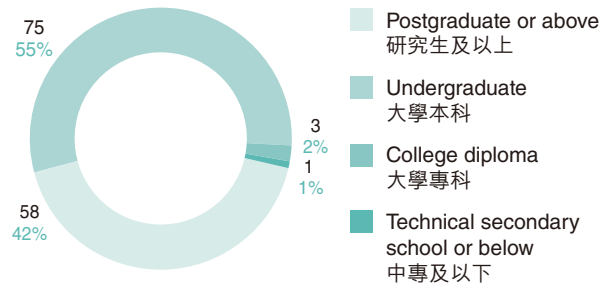


As at 31 December 2017, the Company had a total of 137 staff. The staff structure is as follows:

於2017年12月31日，本公司共有員工137名。人員構成情況如下：

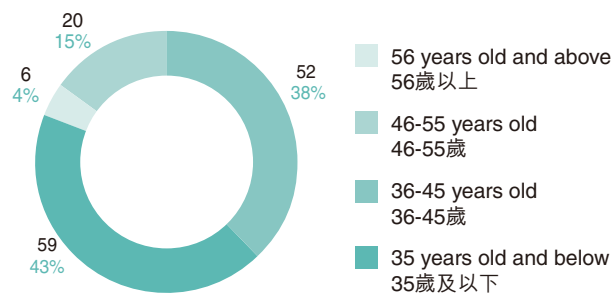
**Table 3: Analysis of the Company's staff by academic qualification (the number and percentage of staff)**

**圖三： 本公司按學歷劃分的員工分析(人數及百分比)**



**Table 4: Analysis of the Company's staff by age (the number and percentage of staff)**

**圖四： 本公司按年齡劃分的員工分析(人數及百分比)**



## EMPLOYEE REMUNERATION SYSTEM AND PERFORMANCE EVALUATION

### 員工薪酬制度和績效考核

In 2017, the Company continued to optimize and improve the post performance salary system; make reasonable and scientific post design; post analysis and post evaluation based on the actual conditions; implemented the internal income distribution mode based on the post value and performance contribution; and gradually formed the post performance salary mechanism of hierarchical classification and diversification. The remuneration of employees consists of three parts: basic salary, performance salary and reward salary. Performance salary is determined according to the Company's performance and performance evaluation at individual employees. Reward salary is determined according to the completion of the Company's annual key work.

2017年本公司繼續優化完善崗位績效工資制度，結合實際進行科學合理的崗位設計、崗位分析和崗位評價，落實以崗位價值和績效貢獻為主的內部收入分配方式，逐步形成分層分類多元化的崗位績效工資機制。本集團員工薪酬由基本工資、績效工資和獎勵工資三部份組成，績效工資依據公司業績及績效考核情況確定，獎勵工資依據公司年度重點工作完成情況確定。



## SUMMARY OF HUMAN RESOURCES (CONTINUED) 人力資源概況(續)

The Group has established performance evaluation measures for departments and employees at various levels to standardize salary pay, highlight value creation and the guideline of more pay for more work. In order to ensure the objectiveness and fairness of the performance evaluation and the comparability of the evaluation results, the Company introduced the departmental evaluation process where the management of the Company evaluates the middle management and departments, and in turn the department managers evaluate their employees, ensuring that the missions of the Company are effectively conveyed.

### STAFF TRAINING

The Group has duly implemented the strategy of improving and strengthening the enterprise by attracting talents to continuously enhance the systematic education and training of the Group, as well as strengthen and improve the employee training system catering to the Group's future development and the need for talents. Tailor-made training sessions were provided to different professional staff at different levels in accordance with their work needs. In 2017, with the enhancement of the political quality of leaders as the important content, the Company thoroughly implemented a "3+1" employee training system comprising of leadership, competence, execution, and professional skills and conducted 50 courses including intelligent power generation lectures, trainings conducted by internal trainers and specialized training courses involving financial management, technical R&D, procurement, safety production, quality management, discipline inspection & supervision and party building. At the same time, the Group focused on forging learning-sharing organization culture, continuously enhancing the construction of internal trainers, building innovative and sharing themed classrooms, creating the "innovation • thinking" salon internal training brand to provide the demonstration platform for sharing and communication among all types of talents.

本集團制定各級部門及員工績效考核管理措施，規範薪酬支付，著重價值創造、多勞多得導向原則。為保證績效考核過程客觀公正，考核結果具有可比性，本公司利用部門考核環節，由本公司領導對中層管理人員和部門進行評價，然後由部門經理對員工進行評價，確保本公司任務的有效傳遞。

### 員工培訓

本集團全面實施人才強企戰略，不斷提升本集團系統教育培訓工作水平，不斷健全完善適應本集團未來發展及人才需要的全員培訓體系，並依據工作需要對本公司各類專業人員分層分類組織實施培訓。2017年把提升領導人員政治素質作為重要內容，深入實施基於領導力、勝任力、執行力和專業技能培養的「3+1」全員培訓體系，開展智能發電系列講座、內訓師培訓、包括有關財務管理、科技研發、採購、安全生產、質量管理、紀檢監察及黨建等專題培訓共計50個班次。同時，本集團着力打造學習分享型組織文化，持續加強內部培訓師資建設，建成了創新分享主題教室，打造「創•想」沙龍內訓品牌，為各類人才提供分享溝通的展示平台。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

## 環境、社會及管治報告

### 1. ABOUT THIS REPORT

This Report is the second annual Environmental, Social and Governance (“ESG”) Report released by the Group. This Report focuses on the Group’s environmental, social and governance policies, as well as specific management measures taken during the Reporting Period, with a view to strengthening communication and connection with the Group’s internal and external stakeholders.

The Board of Directors takes full responsibility for the Group’s environmental, social and governance strategies and reporting, and is responsible for assessing and determining the Group’s environmental, social and governance risks, ensures that the Group has a proper and effective environmental, social and governance risk management and internal control system. The Board of Directors and all Directors hereby guarantee that there are no false records, misleading statements or material omissions in the contents of this Report and that they are severally and jointly liable for the authenticity, accuracy and completeness of the contents hereof.

#### 1.1 Basic Information of the Report

##### *The Scope of the Reporting Subjects*

Guodian Technology & Environment Group Corporation Limited and its subsidiaries.

##### *Reporting Period*

The ESG report of the Group is an annual report whose Reporting Period lasts from January 1, 2017 to December 31, 2017 and some contents and data may be properly traced back to the previous years.

##### *Preparation Basis*

This Report has been prepared in accordance with the requirements of Annex 27 “Guide for Environmental, social and governance Report” of the Listing Rules of the Stock Exchange.

##### *Report Access*

This Report is published in the annual financial report of the Group. You may download the Chinese and English versions of this Report on the website disclosed by the Stock Exchange or the website of the Group: <http://www.khjt.com.cn/>. This Report is published in both Chinese and English. In case of ambiguity between these two versions, the Chinese version shall prevail.

### 1. 關於本報告

本報告為本集團第二次發佈的年度環境、社會及管治(簡稱「ESG」)報告。本報告主要介紹本集團在環境、社會及管治方面的管理政策以及在報告期間採取的具體管理措施，旨在加強與本集團內外部利益相關方之間的溝通與聯繫。

本集團董事會對本集團的環境、社會及管治策略及匯報承擔全部責任，負責評估及釐定本集團有關環境、社會及管治的風險，並確保本集團設立合適及有效的環境、社會及管治風險管理及內部監控系統。董事會及全體董事保證本報告內容不存在任何虛假記載、誤導性陳述或重大遺漏，並對其內容的真實性、準確性和完整性承擔個別及連帶責任。

#### 1.1 報告基本信息

##### *報告主體範圍*

國電科技環保集團股份有限公司及其附屬公司。

##### *報告時間範圍*

本集團《環境、社會及管治報告》為年度報告，報告期間為2017年1月1日至2017年12月31日，部分表述及數據適當追溯以前年份。

##### *編製依據*

本報告的內容是參照聯交所上市規則附錄二十七《環境、社會及管治報告指引》的要求而編製的。

##### *報告獲取*

本報告登載在本集團財務年報中，您可以在聯交所披露易網站或本集團的網站<http://www.khjt.com.cn/>下載查閱本報告的中英文版本。本報告以中英文兩種文字出版，在對兩種文本理解發生歧義時，請以中文文本為準。

## 1.2 ESG Management Vision

Currently, resources and environment problems are becoming more and more prominent, and the way of energy development, which aims at environment-friendly, intelligent and sustainable development, has become an irreversible historical trend. As an important backbone enterprise related to the national energy security and national economic lifeline, the Group, focusing on the new round of major industrial emphases such as new energy, energy conservation, environmental protection, low-carbon technology, etc., constantly explores the way to develop green energy science and technology and serve the society and implements the corporate object of "dedicating to energy science and technology, building green homeland".

The Group is equipped with the appropriate resources, takes practical actions, governs the enterprise and runs business according to laws and is committed to reducing the possibility of environmental and social risk converting to financial risk. At the same time, the Group actively participates in the local government-enterprise co-construction, science, education, health, donation and other social public welfare activities, and through websites, magazines and other multimedia, publicizes and promotes electric power energy conservation and environmental protection technology and innovative products, advocates energy conservation and environmental protection conceptions and calls for low-carbon life.

Looking into the future, the Group will continue to take work safety as the foundation, quality and efficiency promotion as the core, science and technology and system innovations as the driving forces, the Party Construction and construction of the Party's Working Style and Clean Governance as the guarantee; we will continue to greatly integrate resources, strengthen cooperation, perform the economic, political and social responsibilities, make our contributions to the sustainable development of the Chinese economy in the fields of energy conservation, environmental protection and the circular economy.

## 2. ENERGY CONSERVATION, ENVIRONMENTAL PROTECTION AND GREEN DEVELOPMENT

### 2.1 Exploit the Advantages and Promote the Environmental Industry

The Group, focusing on the power generation industry and adhering to the industrial development direction of energy efficiency and clean use, has formed two major core business blocks, i.e., environmental protection and energy conservation solutions, renewable energy equipment manufacturing and services. Its business system has a positive impact on environment and has made outstanding contributions to the development of green energy.

## 1.2 ESG管理願景

當前，資源和環境問題日益凸顯，以綠色、智能及可持續為目標的能源發展方式已經成為不可逆轉的歷史潮流。作為關係國家能源安全和國民經濟命脈的重要骨幹企業，本集團圍繞新能源、節能環保及低碳技術等新一輪產業重點，不斷探索發展綠色能源科技服務社會之路，踐行「致力能源科技，構築綠色家園」的企業宗旨。

本集團配備相應的資源、採取切實的行動，依法治企、合規經營，致力於減少環境社會風險向財務風險轉化的可能。與此同時，本集團積極參與所在地區的地企共建、科教衛生及捐資助學等社會公益活動，並通過網站、雜誌等多種媒體，宣傳推廣電力節能環保技術與創新產品，倡導節能環保理念，號召低碳生活。

展望未來，本集團將繼續以安全生產為基礎，以提質增效為核心，以科技和體制創新為驅動，以黨建和黨風廉政建設為保障，大力整合資源，強化協同，履行經濟責任、政治責任和社會責任，在節能環保、循環經濟領域為中國經濟可持續發展貢獻力量。

## 2. 節能環保 綠色發展

### 2.1 發揮優勢 推進環保行業發展

本集團圍繞發電主業，堅持能源高效、清潔利用的產業發展方向，形成了環保與節能解決方案、可再生能源製造及服務兩大核心業務板塊，業務體系對環境產生積極影響，為發展綠色能源做出了傑出貢獻。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

At present, the Group is China's largest conventional coal-fired power plant energy conservation and environment protection service provider and leading manufacturer of renewable energy system and equipment; and it promotes the development of the industry with leading technology. In addition, since 2013, this Group has successively been listed into Global TOP 500 in the new energy sector. In its development process, this Group has cultivated a series of well-known brands such as Longyuan Environmental, Longyuan Technology, United Power, etc.

目前，本集團是中國最大的常規燃煤電廠節能環保服務商和領先的可再生能源系統服務及設備製造商，以領先技術推動行業發展。同時，從2013年至今，本集團連續四年榮獲全球新能源企業500強。本集團在快速發展中培育了龍源環保、龍源技術、聯合動力等一批知名品牌。

Main Business 主要業務	Business Detail 具體業務	Industrial Position 行業地位	Representing Enterprises 代表企業
Environmental protection and energy conservation solutions 環保與節能解決方案			
Environmental protection 環保	Flue gas treatment, water treatment, noise control, sludge treatment and so on for coal-fired power plants 燃煤電廠煙氣治理、水治理、噪聲治理、污泥治理等	Leading enterprise in the thermal power plant environmental Protection industry 火電廠環保產業龍頭企業	Longyuan Environmental Longyuan Technology (Low NOx combustion business) Lucency 龍源環保 龍源技術(低氮燃燒業務) 朗新明
Energy conservation solutions 節能解決方案	Boiler energy conservation, steam turbine energy conservation, waste heat and residual pressure utilization etc. 鍋爐節能、汽輪機節能、餘熱餘壓利用等 General contract of power stations, technical service of energy conservation for power plants, etc. 電站總承包、發電廠節能技術服務等	Outstanding achievements 成績斐然 The first-class level of the unit construction of the same type in China 國內同類型機組工程建設一流水平	Longyuan Energy Saving Longyuan Technology (Plasma ignition business) 龍源節能 龍源技術(等離子點火業務) Longyuan Engineering 龍源工程



# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

Main Business 主要業務	Business Detail 具體業務	Industrial Position 行業地位	Representing Enterprises 代表企業
	Renewable energy equipment manufacturing and service 可再生能源製造及服務		
WTG products and services 風電產品及服務	Whole machine technology of WTG, variable pitch technology and converter technology, covering the entire industrial chain of wind power equipment design and manufacture 風電整機技術、變槳技術和變流器技術，覆蓋風電設備設計製造整條產業鏈	World-leading wind power overall solution supplier, industry-leading customized operation and maintenance service provider 全球領先的風電整體解決方案提供商、行業領先的定制化運維服務商	United Power Longyuan Electrical Huadian Tianren 聯合動力 龍源電氣 華電天仁

### 2.1.1 Environmental Protection and Energy Conservation Solutions

#### Environmental Protection Business

Longyuan Environmental, a subsidiary of the Group, is one of the earliest domestic enterprises specializing in the thermal power plant flue gas treatment and electric power environmental protection, and is the largest desulphurisation and denitrification project service provider and franchised company in China. The Integrated Membrane Desulphurisation Technology with Low Energy-consumption and Zero Liquid Discharge of Lucency, a subsidiary of the Group has been applied successfully in Guodian Hanchuan Power Plant. In addition to realizing the recovery and utilization of wastewater, this technology can make the by-product reach the standard of first-grade industrial salt, and thereby it has had a positive impact on the industry. The low nitrogen combustion device developed independently by Longyuan Technology, a subsidiary of the Group can adapt to different kinds of coals without affecting the overall safety and economy of generator units, and especially solves the problems in operation and environmental protection of coal-fired boilers.

### 2.1.1 環保與節能解決方案

#### 環保業務

本集團附屬公司龍源環保是國內最早專業從事火電廠煙氣治理和電力環保產業的企業之一，是中國最大的脫硫脫硝工程服務商和特許經營公司。附屬公司朗新明全膜法低能耗廢水零排放技術率先成功應用於國電漢川電廠，實現了廢水回收利用的同時，副產品可達到一級工業鹽標準，在行業產生了積極影響。附屬公司龍源技術自主研發的低氮燃燒裝置，能夠適應不同煤種，不影響機組整體安全性、經濟性，有針對性地解決燃煤鍋爐運行和環保方面的難題。



Desulphurisation and denitrification: In 2017, 24 new wet desulphurisation units were built in Longyuan Environmental, with a capacity of 18,350 MW; and 27 units (17,110MW) were revamped; 13 new flue gas denitrification units with a capacity of 6,220MW were built, and 23 flue gas denitrification units (8,605MW) were revamped. This year, Longyuan Environmental newly built 2,100MW seawater desulphurisation units for one project in Indonesia. The installed capacity of the desulphurisation units input by Longyuan Environmental in thermal power plants was 225GW, and the installed capacity of flue gas denitrification units was 144GW, ranking the first in China for 12 consecutive years. According to the national average thermal power operation hours of about 4,200 hours, the SO<sub>2</sub> emission reduced for the whole year was about 5,738.1 kt and the nitrogen oxides emission reduced was about 964.5 kt.

As at December 31, 2017, the total installed capacity of the desulphurisation franchised projects of Longyuan Environmental was 15,890MW; the total installed capacity of the desulphurisation franchised operation and maintenance projects was 35,300MW and the total installed capacity of denitrification franchised projects was 11,000MW. According to the annual operation time of the thermal power franchised projects of the enterprise for 4,434.85 hours, the annual emission reduction of SO<sub>2</sub> in the desulphurisation franchised project reached 427,900t; the annual emission reduction of SO<sub>2</sub> of the desulphurisation franchised and operation and maintenance projects reached 1,188,900t; and the annual emission reduction of nitrogen oxides in the denitrification franchised project reached 77.8 kt.

脫硫脫硝：2017年，龍源環保新建濕法脫硫裝置24台，容量共18,350MW，對27台共17,110MW進行了技術改造；新建煙氣脫硝裝置13台，容量共6,220MW，對23台容量共8,605MW進行了技術改造。本年度，龍源環保在印度尼西亞新建一項兩台十萬千瓦海水脫硫機組。龍源環保累計投運火電廠脫硫裝置裝機容量2.25億千瓦，煙氣脫硝裝置裝機容量1.44億千瓦，連續12年排名全國第一。按照全國火電平均運行小時數約4,200小時計算，全年減排二氧化硫約573.81萬噸，減排氮氧化物約96.45萬噸。

截至2017年12月31日，龍源環保所屬脫硫特許經營項目的總裝機容量為15,890MW，所屬脫硫特許經營加運營維護項目共35,300MW，所屬脫硝特許經營項目的總裝機容量為11,000MW。按所屬企業火電特許項目全年運行4,434.85小時計算，特許脫硫項目全年減排二氧化硫量達到了42.79萬噸，特許加運維項目全年減排二氧化硫量達到了118.89萬噸，特許脫硝項目全年減排氮氧化物7.78萬噸。

In 2017, 37 boiler combustion nitrogen reduction devices were newly built by Longyuan Technology; totally 551 boilers were put into operation, with an installed capacity up to 162GW. According to the national average thermal power operation hours of about 4,200, the nitrogen oxides emission reduced was about 680.4 kt.

Sewage treatment: There were 23 sewage treatment plants (stations) operated by Lucency, involving the operation of sewage treatment, reclaimed water and water supply, and with the treatment capacity of 1,450kt/d. As at December 31, 2017, the sewage treatment plant treated accumulatively 220,007kt sewage (including reclaimed water) and reduced accumulatively 70.6kt COD emission.

#### *Business of Energy Conservation Solutions*

In 2017, the Group adjusted the organizational organs of Longyuan Energy Saving. After the integration, Longyuan Energy Saving had a total of 79 patents, covering the design, manufacturing, site implementation of steam turbine body, cold end, auxiliary machine and heating technology. The main energy conservation technologies are: the whole-plant considered flexible comprehensive efficiency promotion and energy conservation optimization technical reconstruction and low-energy heat supply technology (winning the first prize of China Power Science and Technology Award, and having been implemented successfully in seven projects); the steam graded heating, power, heat and electricity co-generation energy-conservation technology (winning the first prize of National Electric Power Workers' Technical Achievement Award by of CEC and having been implemented successfully in four projects); the technology of revamping the through-flow for steam turbines of 300MW and below (nearly 70 turbine generator sets revamped); the technology of revamping nozzle groups and blade top steam seals of 660MW and below (nearly 200 turbine generator sets revamped); the design of long-distance and large-temperature-difference heating pipe network, etc. Longyuan Energy Conservation ranked the third place in Top 100 National Energy Conservation Service Companies 2017.

2017年，龍源技術新建鍋爐燃燒降氮裝置37台爐，累計投運551台爐，裝機容量達1.62億千瓦。按全國火電平均運行小時數約4,200小時計算，減排氮氧化物約680.4萬噸。

污水處理：朗新明運營的污水處理廠(站)有23座，涉及污水、中水、供水運營業務，處理能力145萬噸/天。截至2017年12月31日，污水處理廠處理污水(含中水、供水)22,007萬噸，COD(化學需氧量)全年減排量7.06萬噸。

#### *節能解決方案業務*

2017年本集團調整龍源節能組織機構，整合後龍源節能擁有專利共79項，涵蓋了汽輪機本體、冷端、輔機及供熱技術的設計、製造、現場實施領域。主要節能技術有：火力發電廠全廠兼顧靈活性綜合提效節能優化技術改造、低位能優質供暖技術(中國電力科學技術一等獎，成功實施了7個項目)、蒸汽分級加熱一功•熱•電聯產節能技術(中電聯全國電力職工技術成果一等獎，成功實施了4個項目)、300MW及以下汽輪機通流改造技術(成功改造近70台機組)、660MW及以下噴嘴組及葉頂汽封改造技術(成功改造近200台機組)、遠距離大溫差供熱管網設計等。該公司榮獲「2017年度全國節能服務公司百強榜」第三名。



Energy conservation: The Group has implemented about 230 contracted energy management projects. The contracted energy management projects have saved about 225kt coal equivalent in the recent three years. The newly established Longyuan Energy Saving entered into 20 contracts in 2017, saving more than 60kt coal equivalent.

The oil-saving ignition products of Longyuan Technology kept leading in the industry and Longyuan Technology is the only enterprise from China with offshore plasma ignition business. Longyuan Technology continues to carry out small-scale plasma ignition system design optimization, and constantly reduces system costs and enhances product competitiveness. The plasma ignition technology has been successfully applied to 823 equipment sets, with an installed capacity of 359 kW and global market share over 80%, and has saved more than 10Mt oil.

### 2.1.2 Renewable Energy Equipment Manufacturing and Services

#### *WTG Products and Services*

United Power, a subsidiary of the Group, has ranked the second in China for five consecutive years in terms of new installed capacity for wind power equipment manufacturers, and it has been the sixth place in the world since 2015. In 2016, CEC announced that a total of 53 wind farm applications of United Power's wind turbine products won awards, accounting for nearly 20% of all award-winning wind farms. The wind turbines researched and developed autonomously and independently ranked the first in many provinces in terms of available hours. At present, the wind turbine quality control system of United Power has passed the integrated certification of China Classification Society, and the operation and maintenance subsidiary of United Power has passed the certification of the global consistency standard TUV wind power service system. The wind power variable pitch products of Huadian Tianren ranks the second in the country and its electric power informationization business with field bus, micro-grid, energy storage, electric power industry cloud computing and big data technology as the core covers units of all levels of power generation groups.

能源節約：本集團共實施合同能源管理項目約230項，合同能源管理項目近三年年均節約標準煤約22.5萬噸。新成立的龍源節能2017年新簽合同20項，新增節約標準煤6萬噸以上。

本集團附屬公司龍源技術節油點火產品繼續保持行業領先地位，是行業內唯一擁有海外等離子體點火業績的企業。該公司持續進行小型化等離子體點火系統設計優化，不斷降低系統成本，提升產品競爭力。等離子點火技術成功應用於823台設備，裝機容量達3.59億千瓦，全球市場佔有率80%以上，累計節油超過1,000萬噸。

### 2.1.2 可再生能源製造及服務

#### *風機產品及服務業務*

本集團附屬公司聯合動力在風電設備製造商新增裝機容量排名中連續五年穩居國內第二，從2015年開始躍居全球第六。中電聯公佈2016年共有53個風電場應用聯合動力風機產品獲獎，佔全部獲獎風電場近20%，其自主研發製造的風機2016年度可利用小時數位列多省第一。目前，風機質量管控體系通過了中國船級社一體化認證，運維子公司通過全球一致性標準TUV風電服務體系認證。附屬公司華電天仁風電變漿產品國內排名穩居第二，以現場總線、微網、儲能、電力行業雲計算和大數據技術為核心的電力信息化業務覆蓋了發電集團各層級單位。

Carbon dioxide emission reduction: For the whole 2017, United Power produced 753 wind turbines (including 108 1.5MW wind turbines, 636 2MW wind turbines, 9 3MW wind turbines, with a total capacity of 1,461MW) in 2017. In total, United Power produced and sold 11 thousand wind turbines with a total capacity of 17,400MW. According to the annual utilization time of 1,800 hours, in 2017, United Power saved approximately 9,771.8kt coal equivalent, reduced the emission of approximately 25,745.0kt carbon dioxide, 12.2kt SO<sub>2</sub>, 11.3kt nitrogen oxides and 2.5kt soot. In 2017, Chifeng Wind Power, a branch of the Group, accumulatively generated 237,036.1MWh electricity from wind power and PV power, equivalent to reduction of the emission of 194.8k carbon dioxide.<sup>1</sup>

<sup>1</sup> Publicly available and up-to-date authoritative data: According to the Annual Development Report of the Chinese Electric Power Industry (2017) by CEC, in 2016, the power supply standard coal consumption of the thermal power plants of 6,000kW and above around China was 312g/kWh; and the emissions of carbon dioxide, soot, sulfur dioxide and nitrogen oxides were 822g/kWh, 0.08g/kWh, 0.39g/kWh and 0.36g/kWh respectively.

### 2.1.3 International Development

At the same time, with the well-known brand effect, scientific project management and good quality reputation, the Group has steadily spread to the international market. For example, the plasma ignition devices of the Group have entered the markets of South Korea, Russia, Indonesia and Turkey, etc. Its wind turbine equipment has entered the markets of the United States and South Africa. Its seawater desulphurisation devices have entered the markets of Sri Lanka, Philippines and Cambodia, and its environmental protection equipment has entered the markets of Vietnam and Indonesia. Its automatic control systems and engineering services have entered the markets of India, Indonesia and Africa.

二氧化碳減排：聯合動力全年生產風機753台(其中1.5MW風機108台，2MW風機636台，3MW風機9台，合計1,461MW)。聯合動力累計產銷風機1.1萬台，合17,400MW，按年利用1,800小時考慮，全年節約標煤約9,771.8萬噸，減排二氧化碳約2,574.50萬噸，減排二氧化硫1.22萬噸，減排氮氧化物1.13萬噸，減排煙塵0.25萬噸。本集團分公司赤峰風電全年累計風力和光伏發電23,703.61萬千瓦時，相當於減排溫室氣體二氧化碳19.48萬噸。<sup>1</sup>

<sup>1</sup> 可公開獲取的最新權威數據：中電聯中國電力行業年度發展報告(2017)，2016年全國6000千瓦及以上火電廠供電標準煤耗312克/千瓦時，二氧化碳、煙塵、二氧化硫和氮氧化物排放量分別為822、0.08、0.39和0.36克/千瓦時。

### 2.1.3 國際化發展

同時，本集團憑藉著名的品牌效應、科學的項目管理及良好的質量信譽穩步邁向國際市場。等離子體點火裝置進入韓國、俄羅斯、印尼及土耳其等市場。風機設備進入美國及南非市場。海水脫硫進入斯里蘭卡、菲律賓和柬埔寨市場，環保設備進入越南及印尼市場。自動化控制系統及工程服務進入印度、印尼及非洲市場。





## 2.2 Saving Energy and Resource, Building Conservation-Oriented Enterprise

Energy conservation is an important economic policy of China. It is our obligatory social responsibility to promote sustainable development in the construction of a conservation-oriented society today. The Group attaches great importance to green development, strictly implements environmental protection laws and regulations, adheres to the coordinated development of the company's interest and energy conservation and environmental protection. With "energy conservation, consumption reduction, emission reduction, efficiency increase" as the goal, the Group strengthens the scientific management and scientific utilization of energy and constantly improves the energy utilization rate so as to make it a conservation-oriented and technology-based enterprise.

The Group, as an advanced environmental protection service enterprise, in its development process, strictly complies with the *Environmental Protection Law of the People's Republic of China*, the *Energy Conservation Law of the People's Republic of China* and other applicable laws and regulations, and requires each of its subsidiaries to reasonably and effectively use energy to reduce the cost, take improving the comprehensive benefit as the management target and establish their own energy-saving management system on the basis of their own business characteristics. Under the call of the Group, United Power has formulated the *Energy Conservation and Consumption Reduction Management System*; Chifeng Wind Power has formulated the *System Governing the Saving Use of Resources and Energy*, covering power saving, fuel saving, water saving and other management measures and according to the requirements under the Health, Safety and Environment Integrated Management System (the "**HSE Management System**"), has implemented energy conservation and consumption reduction management. The Group, via rules and regulations, further requires each subsidiary to effectively encourage saving, curb wasting, and constantly optimize the external and internal environment for the construction of conservation-oriented enterprise, so as to form a long-term mechanism for saving resources and ensure the continuous and deep construction of conservation-oriented enterprise.

## 2.2 節能降耗 建設節約型企業

節約能源是我國一項重要的經濟政策，在建設節約型社會的今天，促進可持續發展是本集團義不容辭的社會責任。本集團高度重視綠色發展，嚴格執行環境保護相關法律法規，堅持公司利益與節能環保協同發展，以「節能、降耗、減排、增效」為目標，加強能源的科學管理，科學利用，不斷提高能源利用率，使本集團成為節約型、科技型企業。

本集團作為先進的環保服務企業，在發展中嚴格遵守《中華人民共和國環境保護法》、《中華人民共和國節約能源法》等法規，要求各附屬公司合理、有效地利用能源降低成本，提高綜合效益為管理目標，結合自身業務特點制定節能管理制度。在本集團的號召下，聯合動力制定了《節能降耗管理制度》，赤峰風電制訂了《資源及能源節約使用管理制度》，內容涵蓋節電、節油、節水等管理措施，並根據健康Health、安全Safety、環境Environment三位一體管理體系（「**HSE管理體系**」）要求實施節能降耗管理。本集團通過制度有效地激勵節約，遏止浪費，不斷優化建設節約型企業的外部 and 內部環境，從而形成節約資源的長效機制，保證節約型企業建設工作持續深入開展。

### 2.2.1 Energy Management

The Group's energy consumption in the production and operation process mainly includes: electricity, gasoline, diesel and natural gas, etc. Electricity consumption mainly comes from the production process of wind turbine, blade, desulphurisation catalyst and other products; the debugging of large automation systems and other equipment; the lighting for the project construction, the operation of motor and welding machine; the operation of the wind farm equipment and office used electricity, etc. Gasoline consumption mainly comes from the use and maintenance of commercial vehicles and equipment repair vehicles. Diesel consumption mainly comes from the vehicles to transport wind turbines, blades, desulphurisation catalysts and other products and the operation of diesel generators in the power plants. Natural gas consumption mainly comes from the heating and paint baking in the blade production workshop, as well as the making of daily food by the canteen of the company.

### 2.2.1 能源管理

本集團在生產運營過程中消耗的能源主要包括：電、汽油、柴油和天然氣等。電耗主要來自於風機、葉片及脫硫催化劑等產品生產過程；大型自動化控制系統等設備調試；項目施工照明、電動機和電焊機運轉；風電場設備運行和辦公室用電等。汽油消耗主要來自於商務車和設備檢修車使用和維護。柴油消耗主要來自於風機、葉片及脫硫催化劑等產品運輸車輛和電場柴油發電機運轉。天然氣消耗主要來自於葉片生產車間取暖及烤漆，以及公司食堂日常餐飲使用。

Performance Indicators 績效指標	FY2017 2017年度
Total power consumption (kWh) 總耗電量(千瓦時)	1,605,840,620.94
Total office area power consumption (kWh) 辦公室總耗電量(千瓦時)	9,195,821.45
Total industrial power consumption (kWh) 生產過程耗電(千瓦時)	1,596,644,799.49
Power consumption per MW product (kWh/MW) 每兆瓦產品耗電強度(千瓦時/兆瓦)	350.88
Assembly workshop power consumption (kWh) 整裝車間耗電量(千瓦時)	569,646.03
Installed capacity (MW) 兆瓦裝機量(兆瓦)	1,623.50
Power consumption per blade (kWh) 單支葉片耗電量(千瓦時)	6,148.67
Blade workshop power consumption (kWh) 葉片車間耗電量(千瓦時)	9,192,261.85
Number of blades (pcs) 葉片支數(支)	1,495.00



Performance Indicators 績效指標	FY2017 2017年度
Gasoline consumption (ton) <sup>2</sup> 汽油消耗量(噸)	740.71
Diesel consumption (ton) 柴油消耗量(噸)	256.84
Natural gas consumption (normal cubic meter) 天然氣消耗量(標準立方)	364,310.07
Heating power outsourced for the office building of HQ (GJ) <sup>3</sup> 本部辦公樓外購熱力量(千兆焦耳)	7,711.20
Total greenhouse gas emission (tons of equivalent CO <sub>2</sub> ) 溫室氣體總排放量(噸二氧化碳當量)	984,388.94
Direct greenhouse gas emission (tons of equivalent CO <sub>2</sub> ) <sup>4</sup> 直接溫室氣體排放量(噸二氧化碳當量)	3,891.08
Indirect greenhouse gas emission (tons of equivalent CO <sub>2</sub> ) <sup>5</sup> 間接溫室氣體排放量(噸二氧化碳當量)	980,497.86
Greenhouse gas emission intensity (tons of equivalent CO <sub>2</sub> / RMB10,000 business income) 溫室氣體排放強度(噸二氧化碳當量/萬元營收)	0.84

<sup>2</sup> The consumption of gasoline and diesel in volume was 1,014,031.99L and 302,043.84L. The consumption of oil is not represented with kWh in general.

<sup>3</sup> As the branches of the Group do not establish the outsourced heat statistic flow, it is impossible to have the statistics for the total full-calibre outsourced heat of the Group for 2017 and only the outsourced heat of the office building of the headquarter of the Group ("HQ") is disclosed. Such statistic mechanism will be built next year.

<sup>4</sup> Basis of calculation: The gasoline, diesel and natural gas consumed by the Company

<sup>5</sup> Basis of calculation: The total power consumption of the Group and the outsourced heat for the building of the HQ of the Group

<sup>2</sup> 汽油和柴油消耗量折合體積分別約為1,014,031.99L和302,043.84L，對於油品，通常不用千瓦時為單位表示。

<sup>3</sup> 由於分公司未建立外購熱力統計流程，本年度內無法統計公司全口徑外購熱力總量，僅披露公司本部辦公樓外購熱力量，明年將建立該統計機制。

<sup>4</sup> 計算依據：根據公司消耗汽油，柴油，天然氣計算得出

<sup>5</sup> 計算依據：根據公司總耗電量以及本部大樓外購熱力計算得出

Each subsidiary of the Group, in order to strictly implement the energy management system, has established a relevant responsible department to manage energy and developed its energy management plan according to its own actual conditions. For example, Jiangsu Longyuan Catalyst Co., Ltd (“**Longyuan Catalyst**”) required each energy using department to count the statistics for the consumption of electricity and steam and submit the statistics to Longyuan Catalyst after summarizing in the form of *Daily Production Briefing*. If a department had a defect, the work safety department would analyze the problem and submit the analysis result to Longyuan Catalyst. And at the same time, Longyuan Catalyst would, according to the production situation of every project, prepare the statistics for the production energy consumption of such project and then the financial department would have the cost accounting and analysis of the energy consumption of the project. In terms of the production management of every sewage treatment plant under Lucency, each plant should, on the basis of the difference in water source and technological process and in accordance with the designed energy consumption and the years’ experience in run data, submit the annual energy consumption indicators. The person in charge of production of every plant would be responsible for the energy consumption indicators of the plant and the operation department of Lucency would supervise the energy consumption of each plant.

In order to reduce the consumption of gasoline and diesel in the process of operation, strengthen and standardize the management of vehicles, improve the efficiency of using vehicles, each subsidiary of the Group has developed vehicle management measures, such as the *Measures for the Management of Vehicles Guodian Zhishen*, requiring all vehicles shall be maintained and cared regularly, vehicles shall be sealed during holidays or festivals, and any public vehicle must not be used for private purpose. In the maintenance and patrol inspection of wind power and PV power generation equipment, it is required to reasonably plan the route, avoid the repeated use of vehicles on the same route, and reduce fuel consumption. The Group also actively advocates green travel for employees and the business travel in the city should choose public transport tools as much as possible.

各附屬公司為嚴格執行能源管理制度，附屬公司均設立相關責任部門進行能源管理工作，並根據各附屬公司具體情況制定管理方案。例如江蘇龍源催化劑有限公司(「**龍源催化劑**」)要求各能源使用部門每天統計電和蒸汽的消耗量，通過「生產每日簡報」匯總後上報龍源催化劑，對能耗出現異常的部門，由安全生產部分分析並予以解決並上報龍源催化劑。同時，龍源催化劑根據項目生產情況統計每個項目的生產能耗，由財務部對項目能耗進行成本核算與分析。在對朗新明下屬各污水處理廠的生產管理上，要求各廠針對水源和工藝的差異，按照設計能耗及多年運行的數據經驗，報送每年的能耗指標，各廠生產負責人對該廠的能耗指標負責，郎新明運營部負責監督各廠能耗。

為減少運營過程中汽油、柴油的消耗，加強和規範用車管理，提高車輛使用效率，本集團各附屬公司制定了相應的車輛管理辦法，如《國電智深公司車輛管理辦法》，所有車輛實行定期維修和保養，節假日期間車輛統一封存，嚴禁公車私用。在對風電和光伏發電設備進行維修和巡檢時，合理規劃路線，避免同一路線的重複用車，降低油耗。本集團還積極倡導員工綠色出行，市內公務出行盡量選擇公共出行工具。



In order to realize energy conservation and consumption reduction in the office area, every subsidiary has established office power application management measures. For example, Huadian Tianren has issued the *Notice on Standardizing Emergent Power Outage of the Company and Enhancing Safety Consciousness*, requiring the responsible person of each department and the security officer to supervise and inspect the power outage of the electrical equipment of the department and shut off the main power supply for computers in a timely manner. In 2017, 140 40W permanently-on lamps in the stairs of the office building of the HQ in Beijing of the Group were all replaced with 8W LED energy-saving lamps, saving 39MWh power for the whole year<sup>6</sup>. During festivals, holidays and nights, the personnel on duty should turn off the lamps in the building in time. In summer, the air conditioning temperature of the office should be set at no lower than 26 degrees Celsius to reduce energy consumption with the precondition of ensuring cooling.

<sup>6</sup> Basis of calculation: The lighting duration for the whole year of the constantly-on lamps in stairs was  $24 \times 365$  hours and the formula to calculate the power saved for the whole year is  $140 \times (40-8) \times 10-3 \times 24 \times 365$ .

為實現辦公區域內的節能降耗，各附屬公司制定了辦公室用電管理措施，如華電天仁發佈的《關於規範公司突發停電、提高安全意識的通知》，要求各部門負責人及安全員監督檢查部門電氣設備斷電情況以及電腦要及時關閉總電源。2017年，本集團北京本部辦公大樓內將樓梯的140支40W長明燈統一更換為8W LED節能燈，全年節約用電3.9萬千瓦時<sup>6</sup>。在節假日和夜間，由值班人員及時關閉大樓內照明燈具；夏季在保證供冷的前提下，將辦公室空調溫度設定在不低於26攝氏度，以降低能耗。

<sup>6</sup> 計算依據：樓梯的長明燈全年照明時常為 $24 \times 365$ 小時，全年節約用電量計算公式為： $140 \times (40-8) \times 10-3 \times 24 \times 365$ 。

### 2.2.2 Water Resource Management

The water consumed by the Group and every subsidiary thereto is mainly the production water for technological process, equipment cleaning, etc., the domestic water for catering, bathroom, etc., the water for lawns and fire control, etc. The Group has not identified significant risks of water shortages in terms of seeking suitable sources of water.

### 2.2.2 水資源管理

本集團及各附屬公司主要耗水產生在工藝及清洗設備等生產用水，餐飲、廁所及澡堂等生活用水及澆灌草坪和消防用水等。在求取適用水源方面，本集團尚未發現水資源短缺的重大風險。

Performance Indicators 績效指標	FY2017 2017年度
Total water consumption ( $m^3$ ) 總耗水量(立方米)	26,400,357.18
Industrial water consumption ( $m^3$ ) 工業耗水量(立方米)	26,258,165.62



Performance Indicators 績效指標	FY2017 2017年度
Office area water consumption ( $m^3$ ) 辦公區耗水量(立方米)	142,191.56
HQ office building water consumption ( $m^3$ ) 本部辦公樓耗水量(立方米)	39,809.00
Office area water consumption per capita ( $m^3/person$ ) 辦公區人均耗水量(立方米/人)	23.98
Number of employees ( <i>person</i> ) 員工人數(人)	1,660.00
Domestic sewage discharge ( $m^3$ ) <sup>7</sup> 生活污水排放量(立方米)	68,391.00

<sup>7</sup> Because United Power and Longyuan Energy Saving did not establish the domestic sewage discharge statistical process in the reporting period, therefore, the data do not include the above two enterprises.

According to the requirements of the water resource management system of the Group, the Office of the Group is responsible for the water resource management of the Group and its duties are as follows: to implement the national laws and regulations on water resource management; to formulate the water resource management system of the Group; to implement responsibilities and supervise the implementation; to work out the water resource management plan and annual plan in conjunction with the relevant departments; to establish and improve water resource metering facilities; to manage standing accounts; to promote water-saving measures; to promote the application of new water-saving technology and new technological process.

<sup>7</sup> 由於聯合動力和龍源節能在報告期內未建立生活污水排放統計流程，因此，該數據不包含以上兩家企業。

根據公司水資源管理制度的要求，本集團辦公室負責本集團水資源管理工作，其職責包括：執行國家有關水資源管理的法律、法規，制定集團水資源管理制度，落實責任並監督執行；會同有關部門編製水資源管理規劃和年度計劃；建立和完善水資源計量設施、管理台帳，推行節水措施，推廣應用節水新技術及新工藝等。



In respect of water conservation, the Group mainly takes the following measures: to train and publicize to improve employees' awareness of water conservation; to increase the recovery and utilization of wastewater, for example, the industrial wastewater from desulphurisation catalyst plant after the removal of pollutants can be used as the water for ammonia scrubber and steam condensate water can be used in production process and mixing pit cleaning and washing; to strengthen daily maintenance and management of water consuming equipment; to timely maintain the damaged water supply facilities; to regularly inspect and replace water supply apparatus such as tap, pipe valve and flushing valve, etc.

*Franchised Operation and Maintenance Business Unit of Longyuan Environmental*

The main influence caused by the desulphurisation and denitrification franchised operation and maintenance projects of Longyuan Environmental is from the electricity consumption in the process of removing SO<sub>2</sub> and nitrogen oxides and the water consumption in the limestone slurry configuration and gypsum dehydration process. For 2017, the management target of the Franchised Operation and Maintenance Business Unit of Longyuan Environmental was to achieve  $\leq 1.55\text{kWh/kg}$  power consumption for the removal of unit SO<sub>2</sub>,  $\leq 1.12\%$  desulphurisation plant power consumption rate and  $\leq 30\text{kg/kg}$  water consumption for the removal of unit SO<sub>2</sub>.

在節約用水方面，本集團的主要措施包括：培訓及宣傳提高員工節約用水意識；提高廢水的回收利用率，例如脫硫催化劑廠區工業廢水經去除污染物後可用作氨洗滌塔的補水，蒸汽冷凝水可用於生產工藝流程和混煉地坑清潔衝洗等；加強用水設備的日常維護和管理，及時維修損壞的供水設施，定期檢查更換水龍頭、管道閥門及衝水閥等供水器具。

*龍源環保特許運維事業部*

龍源環保所從事的脫硫脫硝特許運維項目對環境的主要影響在於脫除二氧化硫和氮氧化物過程中的電耗及石灰石漿液配置和石膏脫水過程的水耗。2017年，龍源環保特許運維事業部能耗管理目標要求：脫除單位二氧化硫電耗 $\leq 1.55\text{kWh/kg}$ ，脫硫廠用電率 $\leq 1.12\%$ ，脫除單位二氧化硫水耗 $\leq 30\text{kg/kg}$ 。

In order to ensure the achievement of the energy conservation and consumption reduction target, the Franchised Operation and maintenance Business Unit of Longyuan Environmental worked out the Quality Management Implementation Plan of Operation and Maintenance Business Unit 2017 and established the steering group led by the officer in charge and four work groups thereunder. Under the management target, the Franchised Operation and Maintenance Business Unit of Longyuan Environmental established particular and workable measures: the average control indicators of every project company in respect of material consumption, power consumption, etc. necessary for the removal of unit pollutants were subdivided according to the management target; technical innovation was implemented, communication was strengthened and results were shared within the project company, so as to achieve the goal of saving energy and reducing consumption as a whole; the BU urged each project company to carry out standardized management and consider the standardized management in the monthly assessment of every project company; and the BU would have statistics and analyses to the indicators of the project company on a monthly basis and organize timely deviation analyses and adjustments. The water for the preparation of limestone slurry was all from the circulating sewage of the power plant, and the belt washing water was gradually changed from fresh industrial water to circulating sewage discharged.

As at December 31, 2017, Longyuan Environmental realized  $\leq 1.27\text{kWh/kg}$  power consumption for the removal of unit  $\text{SO}_2$ ,  $\leq 0.99\%$  desulphurisation plant power consumption rate and  $\leq 22.10\text{kg/kg}$  water consumption for the removal of unit  $\text{SO}_2$  and fully accomplished the energy management target set at the beginning of the year.

為保證節能降耗目標的完成，龍源環保特許運維事業部制定了《運維事業部2017年質量管理實施方案》，成立了以公司分管領導為組長的領導小組，下設4個工作小組。針對管理目標，制訂了詳實可行的具體措施：根據管理目標細化各項目公司脫除單位污染物所需的物耗、電耗等平均控制指標；在項目公司內部進行技術革新並加強交流及共享成果，從而達到整體節能降耗的目標；事業部督導各項目公司開展對標管理，將對標管理納入各項目公司的月度考核；事業部每月對各項目公司的指標進行統計及分析，及時組織分析及調整偏差。配制石灰石漿液全部用的是電廠循環排污水，皮帶衝洗水也在逐步由新鮮工業水改為使用循環排污水。

截至2017年12月31日，龍源環保實現脫除單位二氧化硫電耗 $\leq 1.27\text{kWh/kg}$ ；脫硫廠用電率 $\leq 0.99\%$ ，脫除單位二氧化硫水耗 $\leq 22.10\text{kg/kg}$ ，全面完成年初的能源管理目標。



In order to further enhance energy conservation and consumption reduction, the Franchised Operation and Maintenance Business Unit of Longyuan Environmental is currently actively pushing forward the construction of the smart platform, and is to realize the maximum reduction of energy consumption through big data's scientific implementation of "historical selection" of operation mode in the course of operation so that the work of saving energy and reducing consumption will be promoted to a higher level. In order to save water and increase water circulation and utilization rate, every project company is actively exploring new treatment processes in terms of water consumption according to their actual conditions, and some project companies have started the work to achieve zero discharge of desulphurisation wastewater.

為進一步做好節能降耗工作，龍源環保特許運維事業部目前正積極推進智慧平台建設工作，通過大數據科學實施運行過程中運行方式的「歷史擇優」來實現能耗最大限度的降低，促使節能降耗工作更上一個台階。為節約用水，提高水的循環使用率，各項目公司根據各自實際情況，都在用水方面積極探索新的處理工藝，部分項目公司已着手開展脫硫廢水零排放工作。

### 2.2.3 Use of Packaging Materials

The packaging waste produced during the operation of the Group includes woven fabric, carton, plastic film, fixed steel supporting structure, wooden box, batten, ceramic fiber product and winding film, etc..

### 2.2.3 包裝物使用

本集團運營過程中產生的包裝廢棄物包括：編織物、紙箱、塑料薄膜、固定支撐鋼結構、木箱、木方、陶瓷纖維製品及纏繞膜等。

Performance Indicators 績效指標	FY2017 2017年度
Total weight of packaging materials (ton) 包裝物總重量(噸)	598.72
Plastic (ton) 塑料(噸)	19.23
Fabric (ton) 織物(噸)	2.66
Fixed steel supporting structure (ton) 固定支撐鋼結構(噸)	9.66
Wooden box (ton) 木箱(噸)	485.11
Carton (ton) 紙箱(噸)	81.76
Others (ton) 其他(噸)	0.30

Every subsidiary of the Group, in respect of the management of packaging materials, established relevant management rules and regulations. For example, United Power established *the Regulations Governing Packaging Materials*, Longyuan Electrical established the *Regulations Governing the Use of Packages*, etc, covering procurement management, goods warehousing acceptance, storage and keeping, material requisition and replacement of old production consumables with the new ones. In order to reduce the amount of packaging waste, every subsidiary of the Group took a series of management measures: to have an integrated improvement on the packaging method of finished products so as to reduce the consumption of packing materials; to particularly strengthen the points of the easily damaged parts of the mixed woven bags to prolong their service life; to reuse the small damaged cartons after repair; and re-cut and reuse the paper box that cannot be repaired, etc.. In terms of the management of the packing materials for the purchased parts, the Group firstly encouraged suppliers to reclaim the packaging materials. For example, the packaging materials such as raw material packing bags and raw liquid material barrels, etc, for the bulk goods purchased by Longyuan Catalyst were reclaimed; the packaging materials such as pallets, wooden cases, cartons, iron drums, plastic bags, woven bags, etc., that could not be reclaimed were reused on the production line for fixed purpose.

### 2.3 Being Clean and Environment-friendly, Reducing Pollutant Emission

The Group strictly complies with *the Environmental Protection Law of the PRC, the Environmental prevention and control of solid waste pollution Law of the PRC, the Prevention and Control of Atmospheric Pollution law of the PRC* and other applicable laws and regulations. Guided by *the 13th Five-Year Plan for Ecological Environment Protection and the 13th Five-Year Plan for Energy Conservation and Emission Reduction*, the Group strived to reduce the impact of various kinds of waste on the environment, strictly regulated waste emission management, and reasonably carried out recycling and utilization and safe disposal of waste with the ultimate goal of reducing waste emission. In 2017, there were no environmental violations that had a significant impact on the Group.

本集團各附屬公司針對包裝材料的管理，制定了相關管理制度，如聯合動力制定的《包裝材料管理制度》，龍源電氣制定的《包裝使用管理制度》等，內容包括採購管理、物品入庫驗收、倉庫保管、物料領用及生產耗材的以舊換新等制度。為減少包裝廢棄物的產生量，本集團各附屬公司採取了一系列管理措施，包括：成品包裝方式進行一體化改進，降低包裝材料用量；對混煉編織袋容易破損的地方進行針對性的加固，延長使用壽命；破損小的紙箱修理後重新使用，而無法修理的紙箱則重新裁剪後再利用等。對於採購配件的包裝材料的管理，本集團首先鼓勵供應商進行回收，例如：龍源催化劑目前所採購的大宗物品的包裝物均進行了回收，如原料包裝袋及液體原料桶等，針對不能回收的包裝材料，如託盤、木箱、紙箱、鐵桶、塑料袋及編織袋等，也在生產線上進行固定用途的再利用。

### 2.3 清潔環保 減少污染物排放

本集團嚴格遵守《中華人民共和國環境保護法》、《中華人民共和國固體廢物污染環境防治法》、《中華人民共和國大氣污染防治法》等法規，以國家《「十三五」生態環境保護規劃》及《「十三五」節能減排綜合工作方案》為指導，高度重視各類廢棄物對環境的影響，嚴格規範廢棄物的排放管理，以減少廢棄物排放為最終目標，合理開展廢物回收利用和安全處置工作，2017年，未發生對本集團有重大影響的環境違規事件。





### 2.3.1 Hazardous Waste Management

The main hazardous waste produced in the production and operation of the Group includes waste lubricant, grease, coolant, emulsion, hydraulic oil, vacuum pump oil, waste paint barrel, waste circuit board and waste toner, ink cartridge and scrapped office electronics, etc.

### 2.3.1 有害廢棄物管理

本集團在生產運營中產生的主要有害廢棄物包括：廢潤滑油、潤滑脂、冷卻液、乳化液、液壓油、真空泵油、廢油漆桶、廢電路板及辦公產生的廢硒鼓、墨盒、報廢的辦公電子產品等。

Performance Indicators 績效指標	FY2017 2017年度
Total weight of hazardous waste (ton) 有害廢棄物產生總重量(噸)	19.73
Waste lubricant (ton) 廢潤滑油(噸)	0.30
Grease (ton) 潤滑脂(噸)	0.18
Hydraulic oil, etc. (ton) 液壓油等(噸)	0.75
HW06 organic solvent waste (ton) HW06有機溶劑廢物(噸)	8.53
HW13 organic resin waste (ton) HW13有機樹脂類廢物(噸)	7.18
Other hazardous waste (ton) 其他有害廢棄物(噸)	2.79
Hazardous waste generation intensity (kg/RMB10,000 business income) 有害廢棄物產生強度(千克/萬元營收)	0.02

In terms of the above hazardous waste, every subsidiary of the Group establishes relevant management rules and regulations. For example, Longyuan Catalyst has established *the Measures for the Management and Control of Waste*; Guodian Zhishen has established the *Measures Governing Solid Waste*; Chifeng Wind Power has established *the Regulations for the Environment-friendly Management of Waste Mineral Oil*, etc. and the relevant department of each subsidiary is responsible for the management of waste.

針對以上有害廢棄物，本集團各附屬公司建立相關的管理制度和辦法，如龍源催化劑制訂的《廢棄物管理控制辦法》，國電智深制訂的《固體廢棄物管理辦法》，赤峰風電編製的《廢礦物油環保管理制度》等，並由各附屬公司相關部門負責廢棄物的具體管理。

For the management of liquid waste such as waste lubricant, grease, hydraulic oil, etc., Chifeng Wind Power requires the applying unit to prepare special liquid waste collection containers, specified personnel to collect the liquid waste from the oil consuming equipment, take records properly, prevent liquid waste from being discharged into water or soil without collection, and also specify a dedicated department for the uniform management of other waste. In terms of the management of solid waste, Chifeng Wind Power designates special places to store solid waste by categories, attaches the solid waste with clear marks and sorting signs, places fire extinguishers, fire sand boxes, etc. around and enhances the measures against seepage, leakage, etc. for the storage points.

In order to reduce the emission of hazardous waste, each subsidiary of the Group took some effective measures. For example, in March 2017, Longyuan Catalyst changed the paint-sprayed identifier of finished catalyst iron boxes into A4 paper identifier and cancelled the use of production paint; Longwei Company Baoding Branch kept still and clarified waste lubricant and then used it for the rust resistance of equipment or components; Longyuan Technology repeatedly filled powder into the toner cartridge so as to reduce the rejection rate of the toner cartridge.

In respect of the disposal of hazardous waste, Longwei Company reported the conditions about waste lubricant and waste coolant to the local competent environmental protection authority and then a qualified disposing unit would dispose of the waste; and the office waste toner cartridge would be reclaimed, reused or disposed by the seller. In respect of waste computer, display screen, etc., the Group and each subsidiary thereto plan to designate a professional repurchasing unit to uniformly reclaim and dispose hazardous waste.

赤峰風電針對廢潤滑油、潤滑脂及液壓油等液體廢棄物，要求使用單位準備專用的廢液收集容器，明確專人及時對用油設備產生的廢液進行收集，並做好記錄，嚴防廢液不經收集隨意排入水體或土壤，其他廢棄物均由指定部門統一管理。廢棄物設有固定場所分類存放，並有清晰的標識和分類標識，放置滅火器及消防沙箱等防火滅火器材，加強存放點的防滲及防漏等措施。

為了減少有害廢棄物的排放，各附屬公司採取了一些有效措施：龍源催化劑在2017年3月將催化劑成品鐵箱油漆噴繪標識改用A4紙標識，取消生產用油漆；龍威公司保定分公司將廢潤滑油放置澄清後用於設備或部件防銹；龍源技術對硒鼓進行重複灌粉，減小硒鼓的報廢率。

對於有害廢棄物處置方面，龍威公司將廢潤滑油和廢冷卻液的情況上報地方環保部門，由專門有資質的處置單位進行收集處置；辦公廢棄物硒鼓由銷售單位進行回收再利用或處置。針對廢電腦、顯示器等，本集團及各附屬公司將計劃由專業回購單位對有害廢棄物進行統一回收處理。



### 2.3.2 Non-hazardous Waste Management

The non-hazardous waste produced in the operation of the Group includes domestic waste, sludge produced in the production process of sewage treatment plants, steel scrap and iron chip produced by mechanical processing, packaging waste and industrial sewage pollutant from the production of catalysts.

### 2.3.2 無害廢棄物管理

本集團在運行過程中產生的無害廢棄物包括：生活垃圾、污水處理廠生產過程中產生的污泥、鋼材下腳料和機械加工產生的鐵屑、包裝廢棄物及催化劑生產的工業污水污染物。

Performance Indicators 績效指標	FY2017 2017年度
Total weight of non-hazardous waste (ton) 無害廢棄物產生總重量(噸)	212,001.93
Sludge from domestic sewage treatment plants (ton) 生活污水處理廠產生污泥(噸)	212,000.00
Industrial sewage pollutant COD (ton) 工業廢水污染物化學需氧量(噸)	1.79
Industrial sewage pollutant ammonia nitrogen (ton) 工業廢水污染物氨氮(噸)	0.14
Non-hazardous waste generation intensity (tons/RMB10,000 business income) 無害廢棄物產生強度(噸/萬元營收)	0.18

Domestic waste is classified into recyclable, non-recyclable and kitchen waste, and collected by a cleaning company. Domestic waste includes office waste such as paper, etc. In order to reduce the amount of waste produced, the Group advocates that the employees should use paper on both sides and also advocates paperless office operation. Steel scraps and iron chips produced by mechanical processing are stored in designated areas and managed by special personnel, and are regularly handed over to metal recovery units for recycling and reuse. The sludge of the wastewater treatment plant is dewatered first, then composted or landfilled after the moisture content fell below 80%. The pollutants in industrial wastewater are mainly catalyst powder and ammonium sulfate. In case the concentration is excessively high, pipeline may be blocked easily and equipment may be corroded. Longyuan Catalyst has established three industrial sewage collection pools in the production area, and used ammonium crystallization equipment. The waste powder is collected firstly through the settling of the collecting pool, and the collected powder was recovered directly. The ammonium sulfate in the supernatant is collected into solid ammonium sulfate by means of the ammonium crystallization equipment for uniform treatment, and the purified water is reused in the ammonia absorption tower.

本集團把生活垃圾進行垃圾分類，分為可回收、不可回收和餐廚垃圾，並分類收集交由保潔公司處理。生活垃圾中包含部分辦公垃圾，如紙張等，為了減少這部分垃圾的產生量，本集團提倡員工雙面用紙，倡導無紙化辦公。鋼材下腳料和機械加工產生的鐵屑存放在指定區域，設專人管理，定期交由金屬回收單位進行回收再利用。污水廠的污泥先進行脫水處理，含水率降至80%以下後進行堆肥或填埋處理。工業污水中的污染物主要是催化劑粉料和硫銨，若其污染物濃度過高易堵塞管道和腐蝕設備，龍源催化劑在生產區建立了三個工業污水收集池，並投入銨結晶設備。本集團先通過收集池沉降收集粉料，收集的粉料直接回收利用，上清液中的硫銨通過銨結晶設備收集成固體硫銨統一處理，提純的水補回氨吸塔循環使用。

**2.3.3 Exhaust Gas Management**

The Group produces a small amount of exhaust gas during its operation, including SO<sub>2</sub>, nitrogen oxides and particulate matters.

**2.3.3 廢氣管理**

本集團在運營過程中會產生少量的廢氣，包括：二氧化硫、氮氧化物和顆粒物。

**Performance Indicators**  
績效指標

**FY2017**  
2017年度

SO <sub>2</sub> emission (ton) <sup>8</sup> 二氧化硫排放量(噸)	0.02
Nitrogen oxides emission (ton) <sup>9</sup> 氮氧化物排放量(噸)	1.94
Particulate matters emission (ton) <sup>10</sup> 顆粒物排放量(噸)	5.36

<sup>8</sup> Sulfur dioxide mainly comes from emissions from the Company's vehicles.

<sup>8</sup> 二氧化硫主要來自於公司車輛使用的尾氣排放。

<sup>9</sup> Nitrogen oxides mainly come from the production emissions of United Power, excluding vehicle emissions.

<sup>9</sup> 氮氧化物主要來自於聯合動力生產排放，不包含車輛尾氣排放。

<sup>10</sup> Particulate matters mainly comes from the production emissions of United Power and Longyuan Catalyst, excluding vehicle emissions.

<sup>10</sup> 顆粒物主要來自於聯合動力和龍源催化劑生產排放，不包含車輛尾氣排放。

When producing wind turbine blades in winter, United Power needs to burn natural gas in the paint spray room to dry the paint on the surface of the blade. In this process, natural gas combustion exhaust gas is produced. The main components of exhaust gas include particulate matters, SO<sub>2</sub> and nitrogen oxides. In the process of producing and manufacturing wind turbine blades, the semi-finished blade after solidification should be cut and polished, thus producing particulate matter. After being collected and treated properly, exhaust gas is emitted into atmosphere if meeting *Emission Standard of Air Pollutants for Industrial Kiln and Furnace (GB9078-1996)*.

聯合動力在冬季生產風力發電葉片時，需要在噴烤漆房中燃燒天然氣加熱，將葉片表面塗裝漆烘乾，在此過程中會產生天然氣燃燒廢氣。廢氣中的主要成分包括：顆粒物、二氧化硫和氮氧化物。在風力發電葉片生產製造過程中，需對固化成型後的葉片半成品進行切割打磨型修，會產生顆粒物。廢氣經收集處理後，可滿足《工業爐窯大氣污染物排放標準》(GB 9078-1996)排放入大氣。

In the process of producing steam turbine welding diaphragms, Longwei Company Baoding Branch may produce a small amount of exhaust gas, which is emitted after being treated by adsorption and purification equipment. The gases emitted by Longwei Company Baoding Branch, after being tested by Baoding Municipal Environmental protection Monitoring Station, all meet *Integrated Emission Standard of Air Pollutants (GB16297-1996)*.

龍威公司保定分公司在生產蒸汽輪機焊接隔板的過程中，會產生少量廢氣，經吸附淨化設備處理後外排。外排氣體經保定市環境保護監測站檢測，均達到國家《大氣污染物綜合排放標準》(GB 16297-1996)要求。



A certain amount of particulate matters are produced in the process of calcination for the production of denitrification catalyst. After being washed by the ammonia absorption tower, they are discharged into atmosphere after being de-dusted by the wet electric precipitator.

龍源催化劑在生產脫硝催化劑煅燒過程中將產生一定量的顆粒物，經過氨吸收塔洗滌後，再經濕式電除塵器除塵後可達標排放入大氣。

#### 2.4 Pay Attention to Ecology and Pursue Sustainable Development

The Group integrates the environmental protection idea of harmonious symbiosis with nature into every stage of production and management, emphasizes the environmental protection management of wind farms in the operation process. Under Chifeng Wind Power operates a wind farm called Dayuying Wind Farm (located at Gangzi Township, Songshan District). The total installed capacity of this wind farm is 119MW, including 99MW wind power (consisting of Dayuying 49.5MW Wind Power Project and Dadaogou 49.5MW Wind Power Project, both of which adopt the UP77-1500 wind power generator set produced by United Power) and 20MW PV power. This farm is a wind/PV combined hybrid farm and an experimental wind/PV combined farm of the Group.

In order to protect the eco-environment around Dayuying Power Plant, Chifeng Wind Power issued the *Regulations Governing Civilized Construction and the Regulations Governing Safety, Health and Environmental Management*, attempted to minimize the impact on the local plants and eco-environment in the construction of the farm, equipment and facility maintenance and office activity, continued the greening and eco-environment construction in the area of the power plant and immediately recovered the meadow destroyed by construction, overhaul, etc.

With the efforts made throughout the years, Dayuying Power Plant has realized the combination and harmony with the local natural environment. In recent years, the area of the plant has become a tourism area of Chifeng, attracting a great number of tourists. The power plant regularly organizes personnel to clean the waste produced by tourists in order to protect the local environment. In the PV production area, due to sealed management, the plants are more flourishing than those out of the area and there are also a lot of wild animals.

#### 2.4 關注生態 奉行可持續發展

本集團將與自然和諧共生的環保理念融入到生產經營的各個階段，重視風電場在運營過程中的環保管理。赤峰風電下轄一家風電廠—大於營風電廠(位於松山區崗子鄉)，總裝機容量為119MW，其中風電99MW，由大於營49.5MW風電項目和三道溝49.5MW風電項目組成，均採用聯合動力產UP77-1500型號風電機組；光伏20MW，屬風光同場互補型電場，是本集團試驗性風光電場。

為保護大於營風電廠週邊生態環境，赤峰風電制定了《文明施工管理制度》、《安全健康與環境管理制度》，盡可能減少在電廠施工、設備設施維護及辦公活動過程中對當地植物和生態環境的影響，並持續對電廠區內進行綠化及生態環境建設，對施工和檢修作業等破壞的草場，立即進行恢復。

通過多年持續的努力，大於營風電廠已經實現與當地自然環境的融合統一。近年來，廠區範圍成為了赤峰的旅遊區域，吸引了大量遊客駐足留影。對於遊客產生的垃圾，電廠會定期組織人員進行垃圾清理工作，保護當地環境。在光伏生產區域內，由於採用封閉管理，植被生長較圍欄外更為茂盛，野生動物數量更多。



### 3. EMPLOYEE CARE AND COMMON GROWTH

The Group has always insisted that employees are the most precious wealth and the sources for the sustainable development of an enterprise. Therefore, the Group actively creates favorable conditions for the career development and physical and mental health of the employees.

#### 3.1 Employment, Remuneration and Welfare

In accordance with the applicable laws and regulations and the applicable regulations of Guodian Group, the Group has established a clear and transparent HR system, including 18 HR rules and regulations such as the *Measures Governing Staff Employment and Appointment Use (Tentative)* and the *Interim Measures Governing Total Salary*, etc. On the basis of the rules and regulations of the Group, the HR department of the HQ has established ten rules and regulations including the *Interim Measures Governing the Remuneration of HQ* and the *Measures Governing the Education and Training of the Employees of the HQ*.

As at the end of 2017, the Group had in total 6,881 employees, including 2,956 workers, 1,530 technicians and 2,395 other employees; or including 4,899 male employees, accounting for 71.20% of the total, and 1,982 female employees, accounting for 28.80% of the total. In the management level, 25% were female officers, the same proportion as the proportion of female employees to the total. There were 4,090 employees aged 35 and below, accounting for 59.44% of the total; 1,699 employees aged 36-45, accounting for 24.69%; 991 aged 46-55, 14.40%; 101 aged 56 and above, 1.47%. The age structure of the employees was reasonable. Except one employee working in Hong Kong, the others were working in Mainland China.

### 3. 關愛員工 共同成長

本集團始終堅信員工是最寶貴的財富，是企業可持續發展的源泉，積極為員工的事業發展和身心健康創造良好的條件。

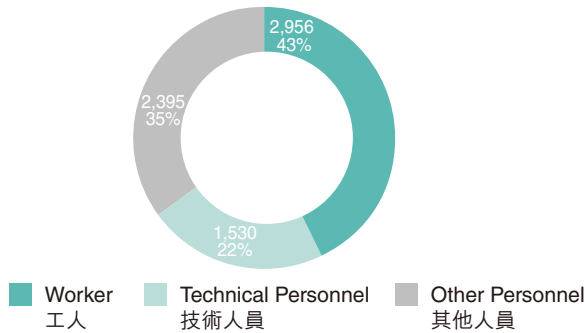
#### 3.1 員工僱傭及薪酬福利

依據相關法律法規及國電集團相關規定，本集團建立了清晰透明的人力資源制度，包括《用人用工管理辦法(試行)》及《工資總額管理暫行辦法》等人力資源制度18項。以集團制度為基礎，本部人力資源部制定了《本部薪酬管理暫行辦法》及《本部員工教育培訓管理辦法》等10項制度。

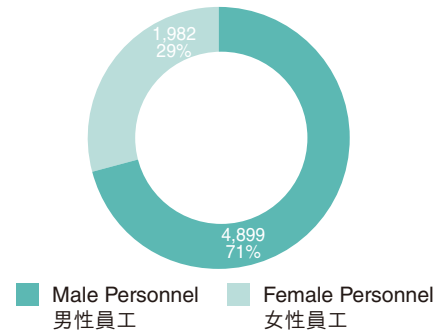
截至2017年底，本集團共有員工6,881人，工人2,956人，技術人員1,530人，其他僱員2,395人；男性員工4,899人，佔員工總數的71.20%，女性員工1,982人，佔28.80%；管理層中，女性約佔25%，與員工比例相近；35歲及以下員工4,090人，佔員工總數的59.44%，36-45歲員工1,699人，佔24.69%，46-55歲員工991人，佔14.40%，56歲以上員工101人，佔1.47%，年齡構成比較合理；除1位員工在香港辦公室外，其餘6,880名員工均在中國大陸。



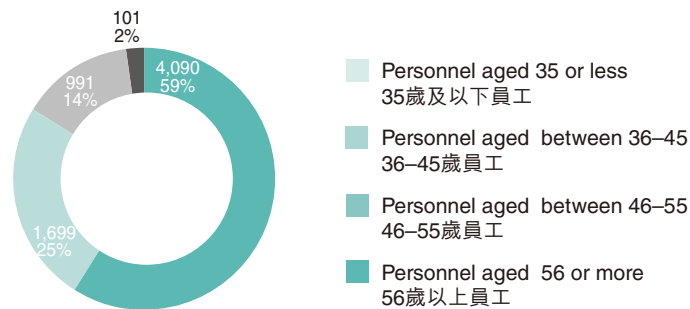
Number and proportion of employees by employment type  
 按僱傭類型劃分的員工人數及比例



Number and proportion of employees by gender  
 按性別劃分的員工人數及比例



Number and proportion of employees by employment type  
 按僱傭類型劃分的員工人數及比例



In 2017, the Group had a total of 537 employees resigned, all of which were from Mainland China and employee turnover rate was 6.58%. In particular, the turnover rate of male employees was 7.47% and that of female employees was 4.23%; the turnover rate of the employees aged 35 and below was 7.80%, that of the employees aged 36-45 was 4.90%, that of the employees aged 46-55 was 3.93% and that of the employees aged 56 and above was 3.85%. Anyhow, the employee turnover rate was within the reasonable scope.

2017年，本集團辭職員工總計537人，均為中國大陸員工，員工流失率6.58%。其中男員工流失率7.47%，女員工流失率4.23%；35歲及以下員工流失率7.80%，36-45歲員工流失率4.90%，46-55歲員工流失率3.93%，56歲及以上員工流失率3.85%。員工流失率處在合理範圍內。

### **Employment according to Law**

In terms of employment, the Group insists on the principle of employment according to law. In accordance with the *Labor Law of the PRC*, the *Labor Contract Law of the PRC* and other applicable laws and regulations, the Group has strictly managed employment and established the *Measures Governing Employment and Appointment (Tentative)*, etc, so as to practically protect the legal rights and interests of the employees.

In terms of avoiding using child labor and forced work, the Group perfects employees employment system and eliminates entirely illegal employment according to the applicable national rules and regulations, for example, it checks the identity information of employees according to the national *Provisions on the Prohibition of Using Child Labor*, effectively avoiding using child labor; the Employment Contract entered into with employees sets forth "Fixed-time work system is executed; the average weekly working hours shall not be more than 40 and the daily working hours shall not be more than eight hours", effectively protecting the legal rights and interests of the employees and avoiding the phenomenon of forced work. At the same time, the Group advocates equal employment policy and provides equal employment opportunities and labor security for employees of different nationalities, races, genders, religious beliefs and cultural backgrounds. In 2017, there were no labor disputes caused by violation of laws and regulations.

### **Remuneration Management**

In order to adapt to the requirements of the transformation and development, the Group has established and perfected the gross pay management system orienting market value and based on performance evaluation. In addition, according to the applicable national regulations and the relevant measures of Guodian Group, the Group has established and implemented the *Interim Measures Governing Gross Pay* and the *Interim Measures Governing the Annual Pay for the Officers of the Enterprise*.

The HQ of the Group has implemented the *Interim Measures Governing Remuneration*, the *Measures Governing Remuneration Payment of the HQ*, the *Interim Measures Governing the Department Performance Evaluation of the HQ* and the *Interim Measures Governing the Employees Performance Evaluation of the HQ* in order to standardize remuneration payment and stress the principles of value creation and working more and getting more. Every subsidiary has established its own management measures according to the above principles and according to the regulations and rules of the HQ, and then filed the same with the Group.

### **依法僱傭**

本集團在員工僱傭方面堅持依法僱傭的原則，按照國家《勞動法》及《勞動合同法》等相關法律法規的要求嚴格僱傭管理，制訂了《用人用工管理辦法(試行)》等，切實保障員工的合法權益。

在防止僱傭童工和強制勞工方面，我們依據國家相關規定完善用工制度，從源頭上消除違規隱患：嚴格按照國家《禁止使用童工規定》的要求核定員工身份信息，有效地避免了童工問題；在與員工簽訂的《勞動合同書》中，約定「執行定時工作制，平均每週工作不超過四十小時，每天工作不超過八小時」，有效地保障了員工合法權益，避免出現強制勞動現象。同時，本集團倡導平等用工政策，為不同國籍、種族、性別、宗教信仰和文化背景的員工提供平等的就業機會和勞動保障。2017年度未發生因違法違規引起的勞動糾紛。

### **薪酬管理**

為適應轉型發展的要求，本集團建立和完善了以市場價值為導向、以績效考核為基礎的工資總額管理體系，根據國家有關規定和國電集團相關辦法，制定並施行《工資總額管理暫行辦法》及《企業領導人員年薪制管理暫行辦法》。

本集團本部施行《本部薪酬管理暫行辦法》、《本部薪酬支付管理辦法》、《本部部門績效考核管理暫行辦法》及《本部員工績效考核管理暫行辦法》，規範薪酬支付，突出價值創造及多勞多得導向原則。各子公司依據上述原則，參照本部規定制定各公司相應管理辦法並報本集團備案。

### **Welfare System**

The Group has established various systems in respect of social insurance, housing fund, enterprise annuity and supplementary medical insurance in strict accordance with the applicable policies and regulations of the State and local governments to ensure employees to be treated equally in terms of endowment, medical treatment, and work-related injury, unemployment and birth and other aspects in accordance with the law. In 2017, no social security violations and defaults of payment occurred.

The Group arranges employees' working hours and vacations in accordance with the regulations of the State, and implements a system of paid annual leave. According to *the Regulation of the State Council on the treatment of staff's visiting relatives* and the Group's relevant regulations, the Group headquarters, take into consideration of actualities, has established the *Management of employee visiting vacation of the headquarters of Guodian Technology & Environment Group Corporation Limited* to solve the family visit problems of the staff who far from home.

### **3.2 Occupational Health and Safety (OHS)**

The Group always regards the occupational health and safety protection of employees as the top priority, and always strictly enforces the relevant laws and regulations, such as the *Work Safety Law of the PRC* and *the Law of the PRC on the Prevention and Control of Occupational Diseases*, etc., and improves and perfects the work environment management and occupational health and safety management system.

#### **Health Protection**

The main occupational hazards of each unit of the Group include dust, noise, welding soot, and toxic chemical. All the relevant units set up occupational disease prevention and control leading group to supervise the implementation of occupational disease prevention and control measures. All units voluntarily accept the supervision and inspection of occupational health supervision agencies, and promptly correct problems according to the opinions and suggestions put forward by occupational health supervision agencies. On a yearly basis, the Group organizes occupational health inspections of relevant workers, strengthens inspection and maintenance of workplaces with occupational disease hazards, ensures the normal operation of occupational disease protection facilities, issues effective personal protective articles regularly, and supervises workers to wear them when they are on duty.

### **福利制度**

本集團嚴格按照國家和地方政府有關政策法規建立了各項社會保險、住房公積金、企業年金和補充醫療保險制度，確保員工在養老、醫療、工傷、失業及生育等方面依法享有平等的權利。2017年度未發生任何社會保險違規及欠繳現象。

本集團依照國家規定安排員工工作時數及休假，並實施帶薪年假制度。為適當解決員工同親屬長期遠居兩地的探親問題，根據《國務院關於職工探親待遇的規定》和國電集團有關規定，結合公司本部實際情況，制定實施《國電科技環保集團股份有限公司本部員工探親休假管理辦法》。

### **3.2 職業健康及安全保障**

本集團始終視員工的職業健康和安全保障為重中之重，一貫嚴格執行國家《安全生產法》及《職業病防治法》等相關法律法規，不斷健全和完善工作環境管理和職業健康安全體系。

#### **健康保護**

本集團各單位主要的職業病危害包括粉塵、噪聲、電焊煙塵及有毒有害化學物質等，各相關單位均成立了職業病防治領導小組，監督職業病防治措施的落實。各單位自覺接受職業衛生監督機構的監督檢查，對監督部門提出的意見和建議，及時予以改正。本集團每年組織相關勞動者的職業健康檢查，加強對有職業病危害因素作業場所的檢查維護，保證職業病防護設施正常運轉，並定期發放有效個人防護用品，監督勞動者在上崗時配戴。

### **Safety Protection**

Until now, the Group has worked out 34 rules and regulations in respect of work safety, mainly including the *Regulations for the Assessment of the Safety Management of Engineering Projects*, the *Work safety Responsibility System* and the *Safety Education and Training System*, and has set up a safety committee to ensure the implementation of the safety rules and regulations.

In 2017, the HQ of the Group had in total four major safety inspections, i.e., safety inspection in spring, safety inspection in summer, safety inspection in autumn and safety inspection under the title of "Safety Month" respectively, completed the inspection of 89 safety items, found 3,557 problems and eliminated such problems in time. In the whole year, the HQ organized in total two safety training classes with the participation of 198 persons in total.

In 2017, both of the number of deaths and death rate for business of the Group were zero.

### **3.3 Employee Training and Career Development Mechanism**

The Group also attaches great importance to the selection, training, incentive and development of talents, concentrates all kinds of superior resources on high-potential and high-performance employees.

#### **Education and Training System**

The Group attaches great importance to education and training, insists on the purpose of serving the common development of the company and employees, adheres to the principle of adapting to the development strategy of the enterprise, and devotes to the establishment of the leaders' training system based on leaders' development and the reserve officer training system based on competence development, the employees training system based on executive ability development and the "3+1" training system based on specific training items in order to improve the level of special skills.

### **安全保障**

本集團目前編製了34個安全生產相關制度，主要有《工程項目安全管理考核制度》、《安全生產責任制度》及《安全教育培訓制度》等，並成立了安全委員會以保障安全制度的貫徹實施。

2017年本集團本部開展了春季、夏季、秋冬季及安全月共4次安全大檢查工作，共完成89個項目的檢查工作，查出問題3,557項，及時排除安全隱患。本部全年共組織2次安全培訓班，共計198人參加。

2017年，本集團員工因工死亡人數及死亡率均為0。

### **3.3 員工培訓及發展機制**

本集團高度重視人才的選拔、培養、激勵和發展工作，集中各類優勢資源向高潛力、高績效員工傾斜。

#### **教育培訓體系**

本集團重視教育培訓工作，堅持以服務公司和員工共同發展為宗旨，堅持與企業發展戰略相適應的原則，致力於建立基於領導力培養的領導人員培訓體系、基於勝任力培養的後備幹部培訓體系、基於執行力培養的員工培訓體系以及基於提高專項技能水平的特定培訓項目的「3+1」培訓體系。





In 2017, in terms of the deep implementation of the “3+1” training system construction, the Group started the work based on the “2-level and 2-category” leadership quality model and established a good foundation for the subsequent implementation of accurate training; in total, it completed 28 trainings in respect of leadership, competence, executive ability and special skills. In 2017, the HQ of the Group totally organized 51 various trainings with the participation of 3,666 person-days; in terms of the construction of the internal trainer team, it held two Party construction training classes for internal trainers; the newly qualified Party construction internal trainers were 14; it also held two internal trainer development courses and advancement concentrated trainings. The internal trainers of the Group were up to 53. The Group established the salon classroom under the theme of innovation and sharing to create the “Innovative and Sharing” salon internal training brand; it held in total 32 symposium salons. The total expenditure of the Group in training for 2017 was RMB770,500.

In the future, the Group will combine the enterprise development strategy and talent quality model, gradually reduce the flooding irrigation type training, steadily improve the precise training contents and management level, continue to strengthen the “3+1” training system construction, and gradually improve the maturity of training management and support the sustainable development of every company.

#### **Selection and Promotion Mechanism**

In order to meet the needs of human resources in the development strategy of the Group and construct a talent selection and promotion mechanism suitable for the transformation and upgrading of the enterprise, the Group has successively issued the *Career Development Channel Management Measures*, the *Measures Governing Officer Assessment*, the *Measures Governing Professional Training and On-the-Job Placement Training*, the *Measures Governing Professional Managers*, etc.

For the development and promotion of management personnel, the Group strengthens the competitive selection mechanism, makes full use of the results of performance evaluation and democratic evaluation and forms a talent selection mechanism allowing the smooth circulation of talents. For the development and promotion of technical personnel, the Group has established the full-caliber and full-process career development route and promotion direction considering both “Professional Technique and Professional Skill”. The promotion sequence is divided into five levels and the salary for each level matches with the corresponding level of management position.

2017年，在深入開展「3+1」培訓體系建設方面，啟動了建立「兩層兩類」領導幹部素質模型工作，為後續實施精準培訓打下良好基礎，共完成領導力、勝任力、執行力和專項技能培訓28次，2017年度集團本部共組織各類培訓共計51次、3,666人•天；在企業內部培訓師資建設方面，舉行了2期黨建內訓師專題培訓，新增黨建內訓師14名，舉辦2期內訓師課程開發及進階集中培訓，本集團內訓師已達53人；建成了以創新分享為主題的沙龍教室，打造「創•享」沙龍內訓品牌，總計舉辦32場研討沙龍。集團本部全年此類支出共77.05萬元。

今後，本集團將結合企業發展戰略及人才素質模型，逐步減少漫灌式培訓，穩步提高精準化培訓內容及管理水平，持續加強「3+1」培訓體系建設，逐步提高培訓工作管理成熟度，助力公司可持續發展。

#### **選拔晉升機制**

為滿足本集團發展戰略對人力資源的需求，構築與公司轉型升級相適應的人才選拔晉升機制，本集團相繼出台了《職業發展通道管理辦法》、《領導幹部考核管理辦法》、《專業培養及掛職鍛煉管理辦法》以及《職業經理人管理辦法》等相關制度。

對於管理人員的發展晉升，本集團強化競爭選拔機制，充分利用績效考核和民主測評結果，形成能上能下的人才選用機制；對於技術人員的發展晉升，確立「專業技術和專業技能」並行的全口徑、全過程職業發展路線和晉升方向，晉升序列統一分為五大層級，各層級的薪酬待遇水平分別與管理崗位相應層級進行橫向對應。



In addition, the Group follows the dynamic control of the total number of personnel, innovates the talent introduction mechanism; it unifies the employment standards and procedures, selects the best talent according to the requirement; and it enhances the examination in the probation period and ensures the smooth circulation of personnel.

In the future, the Group will continue to improve the talent introduction mechanism and establish a talent introduction path focusing on new graduates and considering market selection concurrently.

### 3.4 Employee Care and Team Construction

In the course of driving the change and shaping the culture, the Group adheres to the “Human-oriented” management concept, eliminates the worries for the employees, provides care for the employees, and lays the foundation for the harmonious, stable and healthy development of the enterprise.

The Group attaches great importance to perfecting the corporate democratic management system, arranging and implementing the proposals of the congress of employees, and deepening the “People Benefit Project”. In 2017, the completion rate of 31 people benefit projects was 100%; and the Group issued annual park cards, movie cards, smog masks and holiday condolences for a total of more than 800 person-times of the employees of the HQ. In addition, the Group guides its subsidiaries to establish the special funds to help employees with difficulties. Throughout 2017, a total of more than RMB600,000 relief funds were allocated.

The Group, based on serving the needs of the employees, pays much attention to the physical and mental health of the employees and strengthens the linkage between the upper and lower levels. In 2017, the Group jointly organized the first “Kehuan Cup” badminton competition and table tennis competition with its subsidiaries; conducted flea markets, broadcast exercises, walks on foot and health knowledge lectures and other activities, which were in the deep favor of the employees. The “Romantic Guodian” dating platform undertaken by the Group and the single youth exclusive applications constructed by the Group act as the exchange platforms for more than 1,000 young people. These actions have attracted the attention of Guodian Group, the CYL Working Committee for Central Enterprises and social circles.

此外，本集團遵循人員總量動態調控，創新人才引進機制；統一聘用標準及程序，按需擇優引進人才；加大試用期考核力度，確保人員能進能出。

未來，本集團將持續完善人才引進機制，建立以應屆畢業生為主、市場化選聘為輔的人才引進路徑。

### 3.4 員工關懷及團隊建設

在驅動變革及塑造文化的征程中，本集團秉承以人為本的管理理念，為員工解憂，為員工送去關愛，為企業和諧穩定健康發展奠定基礎。

本集團注重健全完善企業民主管理體系，整理落實職代會提案，深化「惠民工程」，2017年，31項惠民計劃完成率100%，為本部職工發放公園年卡、電影卡、防霾口罩及節日慰問品共計800餘人次。同時指導附屬企業建立困難幫扶專項資金，加大困難職工幫扶力度，全年共撥付救助資金60餘萬元。

本集團以服務職工需求為根本，高度關注員工身心健康，強化上下聯動，與附屬各單位工會聯合舉辦了首屆「科環盃」羽毛球、乒乓球比賽，開展跳蚤市場、廣播操、健步走及健康知識講座等活動，深受職工歡迎。本集團承辦的「浪漫國電」交友平台，建設單身青年專屬應用程序，為1,000餘名青年搭建交流平台，受到國電集團、中央企業團工委及社會各界廣泛關注。



## 4. INNOVATIVE OPERATION AND HIGH-QUALITY SERVICE

### 4.1 Fight Corruption and Promote Clean Governance according to Law

In 2017, the Group firmly built up the “Spirit of Contract” and the concept of operation according to law, constantly improved the clean governance and operation system with scientific decision-making, perfect mechanism and strong supervision, seriously carried out anti-corruption activities, and formed a good atmosphere of honest practice.

In order to standardize the professional behavior of employees and prevent corruption, according to the *Ordinance for the Disciplinary Inspection of CPC Guodian Group and the Regulations on the Punishment of Employees of Guodian Group, etc.*, the Group has revised 11 rules and regulations such as the *Measures Governing Honest Practice Commitment*, the *Measures Governing the Assessment of Disciplinary Commission Secretary*, etc., forming a basically perfect, feasible and self-characteristic discipline inspection and supervision system.

The Group has formulated the *Detailed Rules for the Handling of Disciplinary Inspection and Supervision Letters and Visits and the Measures Governing Disciplinary Inspection*. The department of supervision shall be responsible for reading letters (e-mails), receiving visits and answering incoming calls, and shall be responsible for recording, arrangement, registration, sorting and screening. An incoming letter not within the acceptance scope of the department of supervision will be delivered to the relevant department for handling after being registered. An incoming letter within the acceptance scope of the department of supervision, depending on the content and object reflected therein, will be handled in the form of self-handling, reporting (result), transferring, or preserving, etc. After the petition letter is handled, if the letter has the name of the petitioner, the handling result will be notified of the petitioner in the written or oral form.

## 4. 創新經營 高質服務

### 4.1 依法依規反腐倡廉

2017年，本集團牢固樹立「契約精神」和依法經營理念，不斷健全決策科學、機制完善及監督有力的廉政運行體系，認真開展反貪反腐活動，形成廉潔從業的良好氛圍。

為規範員工的職業行為，預防腐敗發生，依據《中國國電集團紀律檢查工作條例》及《國電集團職工懲處規定》等相關制度，本集團先後修訂了《廉潔從業承諾管理辦法》及《紀委書記考核辦法》等11項制度，形成了一套基本完善、切實可行及具有自身特點的紀檢監察制度體系。

本集團制定有《紀檢監察信訪件辦理實施細則》和《紀律檢查工作管理辦法》，由監察部負責來信(電子郵件)閱讀、來訪接待及來電接聽工作，並進行記錄、整理、登記、分類和篩選。對不屬於監察部受理範圍的來信，登記後轉有關部門辦理，屬於監察部受理的信件，根據反映的內容和對象，區別輕重緩急，分別按自辦、交辦(報結果)、轉辦及留存等方式辦理。信訪處理完結後，對署名舉報信訪件，將處理結果以書面或口頭的形式告知信訪人。

The Group strictly complies with the laws and regulations on bribery, extortion, fraud and money laundering. In 2017, there was no non-compliance issue having a major impact on the Company. The Group pays more attention to the work in respect of the link with high risk of bribery in marketing, production and construction. In view of marketing, the Group has issued the *Guiding Opinion on Strengthening and Standardizing Marketing in an All-round Way*, to standardize the professional behavior of the employees in the marketing system and avoid bribery with customers. In respect of production and construction, the Group carries out special education on laws and regulations, issues risk warning letters to timely prompt the legal risk in the execution of any project; it also carries out audits and has a third-party audit on project settlement; in addition, the Group enters into an *Integrity Agreement* with any engineering subcontractor to constrain the behaviors of the supplier and the buyer.

Moreover, the Group continues to build up a “Trinity” integrity education system for Party members and officers before appointment, in particular, it will have a strict assessment and verification on the Party style and integrity of any officer proposed to be promoted or any person proposed to be commended; it will have a strict integrity examination on any officer proposed to be promoted or any intermediate-level officer proposed to be appointed; it will also have a strict integrity talk with any officer to be promoted before appointment, requiring him/her to be a “politically sensible person, economically clean person, decent person in style and pioneer in work”.

In 2017, the Group revised and issued the *Measures for the Talk in the Construction of Party Style and Clean Governance*, and organized discipline inspection and supervision institutions at all levels to find, remind, and stop emerging and tendentious problems. As at the end of 2017, in respect of the major and difficult issues such as the implementation of the spirit of the “Eight Rules” of the CPC Central Committee by its subsidiaries, the illegal purchase of high-grade alcohol, marketing, etc. of the subsidiaries, the Group conducted 22 efficiency supervisions, issued one Letter of *Efficiency Supervision Decision* and 25 Proposals for *Efficiency Supervisions*, put forward 176 suggestions for efficiency supervision, avoiding economic loss of more than RMB40 million. In 2017, the Group had no corruption cases filed and concluded against any company and its employees.

In 2018, the Group will continue to promote comprehensive strict management of the Party and comprehensive strict management of the enterprise on the depth of efforts to further promote the construction of Party style and clean governance and the work against corruption.

本集團嚴格遵守有關賄賂、勒索、欺詐及洗黑錢的法律法規，2017年未發生對公司有重大影響的違規事件。針對營銷和生產建設中賄賂風險大的環節，本集團更加注重相關工作。針對市場營銷，本集團發佈《關於全面加強和規範市場營銷工作的指導意見》，規範市場營銷系統員工職業行為，防止與客戶之間賄賂行為發生。針對生產建設，本集團開展專題法律法規教育，發出風險提示函及時對項目執行中的法律風險進行提示；開展審計監督，對工程結算進行第三方審計；與工程分包商簽訂《廉潔協議書》，約束供需雙方的行為。

此外，本集團持續構建「三位一體」黨員幹部任前廉潔教育體系：嚴格任前廉潔審核，對擬提任領導幹部和擬評先表彰人員的黨風廉政情況進行審核；嚴格任前廉潔考試，對擬提任領導幹部和中層幹部進行任前廉潔法規考試；嚴格任前廉潔談話，對新提任領導幹部進行任前談話，要求其做「政治上的明白人、經濟上的清白人、作風上的正派人、工作上的帶頭人」。

2017年，本集團修訂印發《黨風廉政建設談話辦法》，組織各級紀檢監察機構針對苗頭性、傾向性問題早發現、早提醒、早制止。截至2017年底，本集團對附屬公司圍繞落實中央「八項規定」精神、違規購置高檔白酒、市場營銷管理等重點、難點工作開展效能監察22項，下發《效能監察決定書》1份，《效能監察建議書》25份，提出效能監察建議176條，避免經濟損失4,000餘萬元。2017年，本集團未發生對公司及員工提出並已審結的貪污訴訟案件。

2018年，本集團將繼續在促進全面從嚴治黨與全面從嚴治企深度融合上下功夫，進一步推動公司黨風廉政建設和反腐敗工作的開展。



#### 4.2 Promote Development Innovation to Increase Benefits

As the practitioner of green energy reform, the Group inherits the gene of innovative culture, fully exerts the inherent power of market-oriented scientific and technological innovation, and has established a strong and powerful technology R&D system with rational division of labor and clear architecture.

**Talent team:** The Group faces the frontier of energy science and technology, faces the market development demand, faces the production management, aims at the international cutting-edge technology, and focuses on cultivating a science and technology talent team leading at home and abroad and with rational structure.

**Equal emphasis on production and research:** The Group cultivates technologies cultivation, equally emphasizes production and research, adheres to the combination of market orientation and its actual need and strives to cultivate the core competitiveness in various business sectors.

**Intellectual property rights:** The group pays attention to innovation incentive and intellectual property rights protection, it requires each branch or subsidiary to formulate relevant intellectual property rights management and protection measures and sign non-disclosure agreement with technical personnel with intellectual property rights owned by the enterprise, reward the technical personnel in respect of intellectual property rights, thus not only protecting the technology, but also arousing the enthusiasm of the employees in invention and creation. In 2017, the Group acquired 264 intellectual property rights accumulatively, including one international invention patent and 65 national invention patents. The Group has acquired 1,955 intellectual property rights in history, including 20 international invention patents and 454 national invention patents.

**Achievement transformation:** As at the end of 2017, around the core business, the Group created a total of 86 mature technologies. In the past three years, its 48 items of new technology industrialization have realized business income of more than RMB10 billion, and scientific and technological innovation has provided the source and motive force for the sustainable development of the Group.

#### 4.2 推動發展創新增效

作為能源綠色變革的踐行者，本集團傳承創新文化基因，充分發揮以市場為導向的科技創新內在動力，建立堅強有力、分工合理、層次清晰的技術研發體系。

**人才隊伍：**面向能源科技前沿、面向市場發展需求、面向生產管理一線，瞄準國際尖端技術，着力培育一支國內領先、國際一流、結構合理的科技人才隊伍。

**產研並重：**技術培育產研並重，堅持市場導向與本集團實際需求相結合，着力培育各業務板塊的核心競爭能力。

**知識產權：**本集團注重創新激勵和知識產權保護，要求各分、子公司制定相關的知識產權管理及保護辦法，與技術人員簽訂保密協議，知識產權歸屬權為企業所有，同時對技術人員進行相應的知識產權獎勵，在保護技術的同時加大了員工發明創造的積極性。截止2017年12月31日，2017年，累計獲得知識產權264項，其中國際發明專利1項、國家發明專利65項。本集團歷史累計獲得知識產權1,955項，其中國際發明專利20項、國家發明專利454項。

**成果轉化：**截至2017年底，本集團圍繞核心業務共形成了86項成熟技術。近三年來形成的48項新技術產業化實現營業收入超過百億元，科技創新為本集團的持續發展提供了源泉和動力。

In the future, while maintaining its technical advantages in the traditional business areas, the Group will actively develop intelligent thermal power and intelligent wind power integrated solutions, accelerate the application promotion of mature technologies in overseas markets, explore the technical application in coal mining, coal chemical industry, traffic and transportation, nuclear power, PV power generation, fuel gas power generation, urban heat supply, industrial boiler, metallurgical environmental protection, etc., pay attention to the technological development of shale gas, hydrogen energy, energy storage, solar thermal and distributed energy, strengthen the synergy of internal innovative resources and carry out application R&D in due time so as to provide a new growth point for the development of the Company.

#### 4.3 Excellent Quality and Quality Foremost

The Group attaches great importance to the quality of products and services, and builds up its brand, promotes its development and wins benefits with quality. The Group, under the principle of "Management as a whole and responsibility by levels", has issued the *Measures Governing Quality of Guodian Technology & Environment Group Corporation Limited* to guide every company and every unit in quality management and it requires quality construction to meet the following criteria:

1. No major engineering quality and equipment damage accidents occur;
2. The pass rate of quality supervision and inspection meets the requirements of the Group, the quality of building installation meets the design requirements, and the related environmental protection and safety facilities are built simultaneously. In accordance with the contract, the company is responsible for the maintenance or replacement of products with quality problems;
3. Compliance with standards is realized and production commences on schedule;
4. Major technical and economic indicators reach the advanced level of similar projects.

To this end, the Group has established a quality management system covering all business units of design, production, construction and operation and maintenance to strengthen supplier quality control, strictly control quality at source, actively organize quality training and quality improvement activities and enhance the quality awareness of the whole employees.

未來，本集團將在傳統業務領域保持技術優勢的同時積極研發智能火電、智能風電整體解決方案；加快成熟技術在海外市場應用推廣；開拓煤炭開採、煤化工、交通運輸、核電、光伏發電、燃氣發電、城市供熱、工業鍋爐及冶金環保等領域的技術應用；關注頁巖氣、氫能、儲能、光熱及分布式能源的技術發展，不斷加強內部創新資源協同，適時開展應用研發，為公司發展提供新的增長點。

#### 4.3 卓越品質質量為先

本集團高度重視產品質量和服務質量，以質量樹品牌、促發展、贏效益。本集團以「統籌管理，分級負責」為原則，頒佈《國電科技環保集團股份有限公司質量管理辦法》指導公司及各單位全面開展質量管理工作，要求質量建設達到：

1. 不發生重大工程質量和設備損壞事故；
2. 質量監檢合格率達到本集團要求，建築安裝質量滿足設計要求，相關環保及安全設施同步建成；在產品質量保質期內出現質量問題的產品，按照合同約定，公司負責維修或更換；
3. 按期實現達標投產；
4. 主要技術經濟指標達到同類項目先進水平。

為此，本集團建立起了覆蓋設計、生產、施工及運維各業務單元的質量管理體系，加強供應商質量管控，嚴控源頭質量，積極組織質量培訓和質量改進活動，增強全員質量意識。





In 2017, the relevant department completed the revision and upgrading of the quality management system 2015; and on the basis of the core conception of "Thinking Based on Risk", regarded "quality" conception as the key for the development of the enterprise and constantly promoted the capability of the enterprise in standardization and quality management innovation. In the future, the Group will continue to improve the quality management level by improving the effectiveness of quality management, strengthening the training and reserve of quality personnel, etc.

2017年，相關部門完成了質量管理體系2015版換版升級工作，根據「基於風險的思維」這一核心概念，將「質量」概念昇華到企業發展的高度，持續提升企業標準化和質量管理創新能力。未來，本集團將從提升質量問題管理有效性，加強質量人才的培養和儲備等方面持續提升質量管理水平。

## 5. COOPERATION FOR COMMON WIN AND DEDICATING TO THE SOCIETY

## 5. 攜手共贏 奉獻社會

### 5.1 Supplier Cooperation and Management

### 5.1 供應商合作與管理

In terms of the supplier management, any subsidiary of the Group is required to learn advanced experience in the industry, optimize the qualified supplier development process, introduce excellent suppliers of the enterprises ranking the top in the industry, accelerate the verification and probation of newly developed suppliers, formulate a reasonable development plan, and reasonably make a procurement program.

在供應商管理上，要求本集團附屬公司學習行業內先進經驗，優化合格供應商開發流程，引進行業內排名靠前的企業的優秀供應商，加快新開發供應商驗證試用環節，制定合理的開發計劃，併合理策劃採購方案。

#### *Categories of Main Suppliers*

#### *主要供應商種類*

The business suppliers of the Group are divided into four categories: construction contractors; manufacturers, agents and distributors of equipment and materials; suppliers in respect of such services as scientific and technological research and development, technical advice, inspection, testing and transportation; integrated suppliers in respect of law, finance, audit, etc. In 2017, the Group had totally 2,735 suppliers, all of which were the enterprises in Mainland China.

本集團的業務供應商分為四類：施工類承包商；設備材料生產商、代理商及經銷商；科技研發、技術諮詢、檢驗檢測及運輸等服務類供應商；法律、財務及審計等綜合辦公類供應商。2017年，本集團合作的供應商總計2,735家，全部為中國大陸企業。

### **Supplier Development**

There are mainly two supplier development modes:

1. Bidding: Bidding is an open market behavior. All the potential bidders who meet the requirements for qualified bidders can participate in the bidding and the bid evaluation commission formed according to law will evaluate bids and reach the final recommendation according to rules.
2. Non-bidding procurement: Through the procurement platform uniformly set up by Guodian Group, procurement information is issued and the quotation documents are received, and the final recommendation is reached by the review group.

Bidding and procurement documents contain the requirements for environmental protection, safety, labor, quality, etc.; and the bid from the bidder who does not meet the requirements shall be treated as invalid bid.

### **Supplier Evaluation**

In general, the evaluation of suppliers is mainly based on contractual assessment. If suppliers cannot perform obligations in accordance with the contract, on one hand, they shall be held responsible under the contractual provisions; on the other hand, according to the *Regulations on the Management of Suppliers' Bad Behavior of Guodian Group*, they shall be included in the bad supplier management list to restrict their competitive bidding within Guodian Group; if they are included in the qualified supplier management system, in addition to the above-mentioned assessment, they shall be evaluated according to the applicable regulations in respect of qualified suppliers.

In the future, the Group will further standardize the supplier contract requirements, the provisions on supplier social responsibility management and assessment penalties will be further clarified and refined.

### **供應商開發**

供應商開發主要有兩種方式：

1. 招標方式：招標行為是公開的市場競標行為，滿足招標文件合格投標人要求的潛在投標人均可以參與競標，通過依法組建的評標委員會按規則進行評審，形成最終推薦意見。
2. 非招標採購方式：通過國電集團統一建立的採購平台發佈採購信息並接收報價文件，並由評審小組進行評審，形成最終推薦意見。

招標和採購文件中包含對環保、安全、勞工及質量等方面的要求，不符合要求的報價人作為無效投標處理。

### **供應商評價**

對供應商的評價一般情況以合同考核為主，不能按合同履約的，一方面通過合同法規進行追責，另一方面按國電集團《供應商不良行為記錄管理規定》等規定納入不良供應商管理名錄，限制其在國電集團內部的競標行為；納入合格供應商管理體系的，除按上述合同考核外，同時要依據相關合格供應商制度規定進行考評。

未來本集團將進一步規範供應商合同要求，對供應商社會責任管理方面的規定及考核罰則將進一步明確並細化。

## 5.2 Establish Good Customer Relationship

The Group's main customers are thermal power and wind power generation companies, as well as some local governments with municipal water operation needs. The Group packs and marks products strictly according to the applicable national standards; and it strictly observes the *Advertising Law of the PRC* in publicity in order to ensure authentic contents and protect the legal rights and interests of customers. If necessary, both parties shall be abided by the confidentiality provisions as stipulated in the contract. For a long time, the Group has maintained a good relationship with customers, and its customer satisfaction has kept improving. In 2017, there was no violation that had a significant impact on the Group.

### **Customer Satisfaction**

The Group jointly organizes quarterly customer satisfaction surveys via third-party survey platform, WeChat, email and correspondence, etc., to continuously identify and solve problems, and continuously improve the quality of the Group's products and technical services, timely meet customer needs, improve the brand image of the Company.

In 2017, the overall customer satisfaction of the Group was high and totally 36 letters of praise were received. The customer satisfaction of the HQ and all subsidiaries was no less than 90%, accomplishing the set goal.

As at the end of 2017, the relevant department of Guodian Group had the customer satisfaction survey on 109 items for seven subsidiaries to the Group, with overall average scores more than 90 points and 11 questionnaires with full scores.

### **Customer Complaint Mechanism**

The Group has established a two-level complain mechanism for the HQ and subsidiaries. Customers can complain via site feedback, or by mail, call, fax, etc., to the HQ of the Group or the in-charge department of the project.

All kinds of customer complaints are received and handled by special personnel, and such special personnel are responsible for closed-loop tracking. According to the seriousness of the complaints, the Group will give feedback to the head of the department of the project in charge, the leader of the subsidiary, the head of the department of the Group in charge and the responsible officer of the Group, and track the progress of the problem feedback and handling until the customer is satisfied.

## 5.2 構建良好客戶關係

本集團主要客戶為從事火電及風電業務的發電單位，以及有市政水務運營需求的部分地方政府。本集團嚴格按照國家標準進行包裝、標識，在宣傳中嚴守《中華人民共和國廣告法》要求，確保內容真實，保護客戶合法權益。如需要，雙方按照合同約定遵守保密相關條例。長期以來，本集團與客戶保持了良好的關係，客戶滿意度持續提高。2017年，未發生對本集團有重大影響的違規事件。

### **客戶滿意度**

本集團按季度組織客戶滿意度調查工作，通過第三方調查平台、微信、郵件以及信函等方式聯合開展，不斷發現問題和解決問題，持續改進本集團產品和技術服務質量，及時滿足客戶需求，提升公司品牌形象。

本年度本集團客戶滿意度評價總體較高，2017年共收到客戶表揚信36份。本部及各附屬公司客戶滿意度均不低於90%，達到既定目標。

2017年底，國電集團有關部門對本集團附屬7個企業共109個項目進行滿意度調查評價，總體平均分超過90分，其中有11張問卷得到滿分。

### **客戶投訴機制**

本集團具有本部和附屬公司兩級投訴機制，客戶可通過現場反饋，以及向集團本部或項目公司歸口管理部門郵件、電話或傳真等渠道投訴。

各類客戶投訴均由專人負責接待和處理，並負責閉環跟蹤。本集團會根據投訴問題的嚴重性逐級向項目公司歸口管理部門負責人、附屬公司領導、集團歸口管理部門負責人和集團領導反饋，全程跟蹤問題反饋處理進度，直至客戶滿意。

In 2017, the Group did not receive any serious customer complaint or complaint relating to the inference on user safety production. The percentage of products or items sold or delivered that had to be recovered for safety or health reasons was 0%.

### 5.3 Fulfilling Corporate Social Responsibility

The Group actively participated in the local government-enterprise co-construction, science, education, health, donation and other social public welfare activities and thus promoted the social harmony of the region where it was located.

In 2014, the Group established the “Green Ribbon” Youth Volunteer Association to be committed to creating the characteristic voluntary service activities, spreading the concept of green energy, and establishing a good corporate image. At present, three series of voluntary service brands have come into, that is, “Energy Knowledge into Campus”, “Unite Love, Seed Love” and “Green Ribbon Superbody Everywhere”. In 2017, the “Green Ribbon” Youth Volunteer Association and CYL Chifeng Municipal Committee jointly held the “Light up Micro-wish with Youth” activity, helping 505 poor children to realize their wishes and donating materials worthy of RMB102,000. During the Reporting Period, the “Green Ribbon” Youth Volunteer Association has carried out activities more than 50 hours.

In the future, the “Green Ribbon” Youth Volunteer Association will continue to spread the excellent Chinese traditional culture including the concepts of unity, harmony, relief from distress, etc., constantly hold the “Light up Micro-wish with Youth” activity, “One-to-One” student aid, caring empty nesters, constructing love bookstore, “Learning Lei Feng” youth activity and other activities.

2017年，本集團未發生性質嚴重、影響用戶安全生產的客戶投訴，已售或已交付的產品或項目中因安全或健康原因而須回收的百分比為0%。

### 5.3 踐行企業社會責任

本集團積極參與所在地區的地企共建、科教衛生、捐資助學等社會公益活動，促進了所在地區的社會和諧。

2014年，本集團成立了「綠絲帶」青年志願者協會，致力於創建富有本企業特色的志願服務活動，傳播綠色能源理念，樹立良好的企業形象。目前已形成了「能源知識進校園」「團聚愛 播種愛」及「無處不在的綠絲帶超體」三大系列志願服務品牌。2017年，「綠絲帶」志願者協會聯合赤峰團市委開展「青春點亮微心願」活動，幫助505名貧困兒童實現心願，捐贈物資價值10.2萬元。於報告年度內，「綠絲帶」志願者協會在全國範圍開展活動總計50個小時以上。

未來，「綠絲帶」志願者協會將繼續傳播團結和睦、扶危濟困等觀念的中華優秀傳統文化，持續開展「青春點亮微心願」、「一對一」助學、關愛空巢老人、建立愛心書屋及學雷鋒青年行等系列活動。

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A1.2	Greenhouse gas emissions in total (ton) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 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)。	135 2.2.1	Energy Management 能源管理
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A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved. 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。	144	2.3.1 Hazardous Waste Management 有害廢棄物管理
		146	2.3.2 Non-hazardous Waste Management 無害廢棄物管理
		129	2.1.1 Environmental Protection and Energy 環保與節能解決方案

**Aspect A2: Use of Resources**

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A2	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials. 一般披露有效使用資源(包括能源、水及其他原材料)的政策。	134	2.2 Saving Energy and Resource, Building Conservation-Oriented Enterprise 節能降耗 建設節約型企業
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility). 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)。	135	2.2.1 Energy Management 能源管理
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<b>Aspect B1: Employment</b> 層面B1：僱傭			
B1	General Disclosure Information on: Relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare: (a) the policies; and (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. 一般披露有關薪酬及解僱、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： (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。	149	3.1 Employment, Remuneration and Welfare 員工僱傭及薪酬福利
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B3	General Disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. 一般披露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。	153 3.3	Employee Training and Career Development Mechanism  員工培訓及發展機制

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B6	General Disclosure Information on: relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress: (a) the policies; and (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. 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。	159 4.3	Excellent Quality and Quality Foremost 卓越品質質量為先
		162 5.2	Establish Good Customer Relationship 構建良好客戶關係
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons. 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。	162 5.2	Establish Good Customer Relationship 構建良好客戶關係
B6.2	Number of products and service related complaints received and how they are dealt with. 接獲關於產品及服務的投訴數目以及應對方法。	163 5.2	Establish Good Customer Relationship 構建良好客戶關係
B6.3	Description of practices relating to observing and protecting intellectual property rights. 描述與維護及保障知識產權有關的慣例。	158 4.2	Promote Development Innovation to Increase Benefits 推動發展創新增效
B6.4	Description of quality assurance process and recall procedures. 描述質量檢定過程及產品回收程序。	159 4.3	Excellent Quality and Quality Foremost 卓越品質質量為先



APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL,  
SOCIAL AND GOVERNANCE (ESG) OF THE STOCK EXCHANGE (CONTINUED)  
附錄－聯交所的環境、社會及管治(ESG)內容索引(續)



Environmental, social and governance Report Guide 《環境、社會及管治報告指引》		Page 頁碼	Report Content 報告內容
<b>Aspect B7: Anti-corruption</b> 層面B7：反貪污			
B7	General Disclosure Information on: relating to bribery, extortion, fraud and money laundering:  (a) the policies; and (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. 一般披露有關防止賄賂、勒索、欺詐及洗黑錢的： (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。	156 4.1	Fight Corruption and Promote Clean Governance according to Law  依法依規反腐倡廉
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. 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。	156 4.1	Fight Corruption and Promote Clean Governance according to Law 依法依規反腐倡廉
B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored. 描述防範措施及舉報程序，以及相關執行及監察方法	156 4.1	Fight Corruption and Promote Clean Governance according to Law Community 依法依規反腐倡廉
<b>Aspect B8: Community Investment</b> 層面B8：社區投資			
B8	General Disclosure 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. 一般披露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。	163 5.3	Fulfill Corporate Social Responsibility  踐行企業社會責任
B8.1	Focus areas of contribution. 專注貢獻範疇。	163 5.3	Fulfill Corporate Social Responsibility 踐行企業社會責任
B8.2	Resources contributed (e.g. money or time) to the focus area. 在專注範疇所動用資源(如金錢或時間)。	163 5.3	Fulfill Corporate Social Responsibility 踐行企業社會責任



# REPORT OF THE INDEPENDENT AUDITOR

## 獨立核數師報告



**Independent auditor's report to the shareholders of  
Guodian Technology & Environment Group Corporation Limited**  
(a joint stock company incorporated in the People's Republic of China with  
limited liability)

### OPINION

We have audited the consolidated financial statements of Guodian Technology & Environment Group Corporation Limited (the "**Company**") and its subsidiaries (together the "**Group**") set out on pages 183 to 327, which comprise the consolidated statement of financial position as at 31 December 2017, the consolidated statement of profit or loss, the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of changes in equity and the 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 2017 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 the International Accounting Standards Board ("**IASB**") and have been properly prepared in compliance with the disclosure requirements of the Hong Kong Companies Ordinance.

### BASIS FOR OPINION

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

### KEY AUDIT MATTERS

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

**獨立核數師報告**  
致國電科技環保集團股份有限公司股東  
(於中華人民共和國註冊成立的股份有限公司)

### 意見

本核數師(以下簡稱「我們」)已審計列載於第183至第327頁國電科技環保集團股份有限公司(「**貴公司**」)及其附屬公司(「**貴集團**」)的合併財務報表，此合併財務報表包括於2017年12月31日的合併財務狀況表與截至該日止年度的合併損益表、合併損益及其他綜合收益表、合併權益變動表和合併現金流量表，以及合併財務報表附註，包括主要會計政策概要。

我們認為，該等合併財務報表已根據國際會計準則理事會頒佈的《國際財務報告準則》真實而公允地反映了貴集團於2017年12月31日的合併財務狀況及截至該日止年度的合併財務表現及合併現金流量，並已遵照香港《公司條例》的披露要求妥為擬備。

### 意見的基礎

我們已根據香港會計師公會頒佈的《香港審計準則》進行審計。我們在該等準則下承擔的責任已在本報告「核數師就審計合併財務報表承擔的責任」部分中作進一步闡述。根據香港會計師公會頒佈的《專業會計師道德守則》(以下簡稱「**守則**」)以及中華人民共和國任何與我們對合併財務報表的審計有關的道德要求，我們獨立於貴集團，並已履行這些道德要求以及守則中的其他專業道德責任。我們相信，我們所獲得的審計憑證能充足及適當地為我們的審計意見提供基礎。

### 關鍵審計事項

關鍵審計事項是根據我們的專業判斷，認為對本期合併財務報表的審計最為重要的事項。這些事項是在我們審計整體合併財務報表及出具意見時進行處理的。我們不會對這些事項提供單獨的意見。

# REPORT OF THE INDEPENDENT AUDITOR (CONTINUED)

## 獨立核數師報告(續)



### KEY AUDIT MATTERS (CONTINUED)

#### Recoverability of trade and bills receivables

Refer to Note 24 to the consolidated financial statements and the accounting policies in Note 2(n)(i).

#### The Key Audit Matter

As at 31 December 2017, the Group had a significant balance of trade and bills receivables which amounted to RMB12,843 million and accounted for approximately 36% of the Group's total assets at that date.

Trade and bills receivables, that were not impaired and aged over one year as at 31 December 2017 amounted to RMB3,616 million, representing approximately 10% of the Group's total assets.

The Group's allowances for doubtful debts include a specific element based on individual debtors and a collective element based on groups of debtors with similar credit risk characteristics.

The Group's allowances for doubtful debts are determined based on management's estimate of the expected credit losses to be incurred, which is estimated by taking into account the payment history of the Group's customers, customer specific conditions, historical loss experience and relevant current factors relating to the collectively assessed debtors. All of these factors involve a significant degree of management judgement.

#### How the matter was addressed in our audit

Our audit procedures to assess the recoverability of trade and bills receivables included the following:

- obtaining an understanding of and assessing the design, implementation and operating effectiveness of key internal controls over the credit control, the trade and bills receivables collection process and making allowances for doubtful debts;
- assessing whether items in the trade and bills receivables ageing report were categorised appropriately by comparing samples of individual items with the underlying sales invoices, progress reports or goods delivery documents;
- challenging management's assessment of the recoverability of trade and bills receivables by selecting samples of trade and bills receivables balances and:
- evaluating the reasons for long outstanding and overdue debts and assessing the financial condition of the customers;

### 關鍵審計事項(續)

#### 應收賬款及票據的可回收性

參閱合併財務報表附註24和附註2(n)(i)的會計政策。

#### 關鍵審計事項

於2017年12月31日，貴集團應收賬款及票據餘額重大，約為人民幣12,843百萬元，占貴集團年末總資產比例約為36%。

並無減值的應收賬款及票據的賬齡超過一年的餘額約為人民幣3,616百萬元，占應貴集團年末總資產的10%。

貴集團壞賬準備包括基於個別債務方的個別部分及具有類似信用風險特徵的同類債務方的組合部分。

貴集團依據管理層對於預期發生的信用損失估計提壞賬準備，涉及考慮貴集團客戶的回款歷史、客戶具體財務狀況、歷史壞賬情況以及關於債務方的其他因素。所有上述因素均涉及重大的管理層判斷。

#### 我們的審計如何處理該事項

我們就評估應收賬款及票據可回收性的審計程序包括以下程序：

- 瞭解並評估包含信用政策、應收賬款及票據回收流程以及計提壞賬準備的內部控制的設計、執行及其運行有效性；
- 通過抽樣對比相關的銷售發票、進度報告或出庫單評估應收賬款及票據賬齡分析報告中的賬齡類別是否進行了正確劃分；
- 通過抽樣對管理層關於應收賬款及票據可回收性的評估提出疑問，及：
- 評價長賬齡及逾期應收款項的原因以及評估相關客戶的財務狀況；



# REPORT OF THE INDEPENDENT AUDITOR (CONTINUED)

## 獨立核數師報告(續)

### KEY AUDIT MATTERS (CONTINUED)

#### Recoverability of trade and bills receivables (continued)

Refer to Note 24 to the consolidated financial statements and the accounting policies in Note 2(n)(i).

#### The Key Audit Matter (continued)

We identified assessing the recoverability of trade and bills receivables as a key audit matter because of the significance of the balance of trade and bills receivables to the consolidated financial statements and because of the inherent uncertainty in management's exercise of judgement in determining the allowances for doubtful debts.

#### How the matter was addressed in our audit (continued)

Our audit procedures to assess the recoverability of trade and bills receivables included the following: (continued)

- comparing management's estimated repayment schedules with historical payment patterns of the customers and other relevant documentation including customer correspondence;
- comparing cash received subsequent to the end of the reporting period with bank statements and other relevant documentation;
- assessing the assumptions and estimates made by management for the collective assessment of allowances for doubtful debts by performing a retrospective review of the historical accuracy of these estimates and recalculating the Group's allowances for doubtful debts with reference to the Group's policy for collective assessment; and
- assessing the disclosures in the consolidated financial statements in relation to the allowances for doubtful debts with reference to the requirements of the prevailing accounting standards.

### 關鍵審計事項(續)

#### 應收賬款及票據的可回收性(續)

參閱合併財務報表附註24和附註2(n)(i)的會計政策。

#### 關鍵審計事項(續)

我們把評估應收賬款及票據的可回收性列為關鍵審計事項，因為應收賬款及票據餘額對合併財務報表的重大影響以及管理層判斷對於計提壞賬準備可能存在的固有不确定性。

#### 我們的審計如何處理該事項(續)

我們就評估應收賬款及票據可回收性的審計程序包括以下程序：(續)

- 將管理層估計的回款計劃表與相關客戶的歷史回款記錄及其他相關檔(包括與該客戶的溝通函件)進行對比；
- 將報告期末后收到的款項記錄與銀行對帳單及其他相關文檔進行對比；
- 通過對管理層作出估計的歷史準確性執行回溯性審閱，並且根據貴集團整體計提壞賬的政策，對貴集團壞賬準備進行了重新計算，以評估管理層估計整體壞賬準備時採用的假設及估計，及
- 參照現行會計準則的需求，評估合併財務報表中對壞賬準備的披露。

# REPORT OF THE INDEPENDENT AUDITOR (CONTINUED)

## 獨立核數師報告(續)



### KEY AUDIT MATTERS (CONTINUED)

#### Assessing potential impairment of non-current assets held by certain subsidiaries of the Group

Refer to Note 13 to the consolidated financial statements and the accounting policies in Note 2(n)(ii).

##### The Key Audit Matter

For the year ended 31 December 2017, certain subsidiaries of the Group recorded a significant decrease in revenue or were loss making due to various market, economic and political factors, which included severe market competition, delays in operations influenced by government policies and decreases in market demand resulting from the slowdown in construction of new thermal power plants in the power industry.

Management considered the above events and circumstances indicated that the non-current assets associated with these subsidiaries may be impaired and performed impairment assessments of these assets, or the cash-generating units ("CGUs") to which these assets were allocated, to determine their recoverable amounts. Management determined the recoverable amounts by using the value in use model or fair value less costs of disposal model. The impairment assessment involves significant degree of management judgement, particularly in relation to the key assumptions adopted, including revenue growth rates, gross profit margins, long-term growth rates, inflation rates, the discount rate applied in the discounted cash flow forecast and the remaining useful economic lives and price volatility of the relevant assets.

##### How the matter was addressed in our audit

Our audit procedures to assess potential impairment of non-current assets held by certain subsidiaries of the Group included the following:

- assessing and challenging the Group's impairment assessment model, which included assessing the impairment indicators identified by management, the identification of CGUs and the allocation of assets to those CGUs and evaluating the methodology adopted by management in the preparation of impairment assessments with reference to the requirements of the prevailing accounting standards;
- comparing the data in the discounted cash flow forecasts used for the impairment assessments with the relevant data of the Group's financial budget which was approved by the directors;
- assessing the reliability of management's cash flow forecasting process by comparing the previous year's forecasts with the current year's results, discussing significant variances with management and considering the effect of such variances on the current year's forecasts;
- comparing the key assumptions adopted by management in the discounted cash flow forecasts with externally available information as well as our own assessments in relation to key inputs, which included revenue growth rates, gross profit margins, long-term growth rates and inflation rates;

### 關鍵審計事項(續)

#### 評估貴集團某些附屬公司持有的非流動資產的潛在減值

參閱合併財務報表附註13和附註2(n)(ii)的會計政策。

##### 關鍵審計事項

於2017年度貴集團某些附屬公司收入發生大幅下滑，或由於市場、政治和經濟等方面原因產生虧損，及市場競爭，受政府政策原因延遲開展運營，以及能電力行業新建火電廠建設放緩導致市場需求下降。

鑒於此，管理層認為這些附屬公司的非流動資產存在減值跡象，並對其非流動資產或相關資產所屬的現金產單元進行減值測試，以計算其可回收金額。管理層採用使用價值法或公允價值減處置費用法，確定其可變現淨值。該減值評估涉及重大的管理層判斷，尤其是採用的關鍵假設，包括預計的收入增長率、毛利率、長期增長率、通脹率、折現現金流預測使用的折現率和相關資產的剩餘可使用經濟年限和價格波動。

##### 我們的審計如何處理該事項

我們就評估貴集團某些附屬持有的非流動資產的潛在減值的審計程序包括以下程序：

- 對貴集團減值測試模型進行評價和提出疑問，評估管理層識別出的減值跡象、現金產生單元的劃分及其對應資產的分配，覆核管理層進行減值準備評估時採用的方法是否符合現行會計準則的要求；
- 將用作減值評估的經折現現金流量預測中使用的資料與貴集團經董事會批准的財務預算進行對比；
- 通過對比以前年度預測和當前年度的實際結果，評估管理層編製現金流量預測過程的可靠性，對於重大差異與管理層進行討論並考慮該差異對於當前年度的財務影響；
- 將管理層編製經折現現金流量預測時採用的關鍵假設與外部可獲得資訊以及我們關於關鍵比例的評估結果進行對比，包括收入增長率、毛利率、長期增長率以及通脹率；



# REPORT OF THE INDEPENDENT AUDITOR (CONTINUED) 獨立核數師報告(續)



## KEY AUDIT MATTERS (CONTINUED)

### Assessing potential impairment of non-current assets held by certain subsidiaries of the Group (continued)

Refer to Note 13 to the consolidated financial statements and the accounting policies in Note 2(n)(ii).

#### The Key Audit Matter (continued)

We identified assessing potential impairment of non-current assets held by certain subsidiaries of the Group as a key audit matter because the impairment assessments include a number of assumptions and estimates which require the exercise of significant management judgement and are inherently uncertain and could be subject to management bias.

#### How the matter was addressed in our audit (continued)

Our audit procedures to assess potential impairment of non-current assets held by certain subsidiaries of the Group included the following: (continued)

- comparing the discount rates applied in the discounted cash flow forecasts with these of comparable companies in the same industry;
- challenging the key assumptions to which the outcome of the impairment assessment was most sensitive, including those relating to forecast revenue and forecast profit margins, and considering if there was any indication of management bias in the selection of these assumptions;
- assessing the key assumptions adopted in the calculation of the fair value less costs of disposal of related assets, including the remaining economic useful lives and price volatility of the relevant assets, by assessing whether the key assumptions were within the range adopted by other companies in the same industry or performing recalculations by using market and other external available information derived from similar industries or comparable transactions; and
- considering the disclosures in the consolidated financial statements in respect of the impairment assessment with reference to the requirements of the prevailing accounting standards.

## 關鍵審計事項(續)

### 評估貴集團某些附屬公司持有的非流動資產的潛在減值(續)

參閱合併財務報表附註13和附註2(n)(ii)的會計政策。

#### 關鍵審計事項(續)

我們把評估貴集團某些附屬公司持有的非流動資產的潛在減值列為關鍵審計事項，因為這些減值測試涉及眾多假設和估計，這需要重大的管理層判斷，可能存在固有的不確定性和可能存在管理層的偏見。

#### 我們的審計如何處理該事項(續)

我們就評估貴集團某些附屬公司持有的非流動資產的潛在減值的審計程序包括以下程序：(續)

- 將經折現的現金流量預測表中採用的折現率與同行業可比公司採用的折現率進行對比；
- 對減值測試結果變動最敏感的關鍵假設提出疑問，包括關於收入預測和毛利率預測的假設，關注在選擇該部分假設時是否存在管理層偏見的跡象；
- 評估計算公允價值減相關資產處置成本所採納的關鍵假設，包括相關資產剩餘可使用的經濟年限及價格波動，通過評估關鍵假設是否屬於同行業內其他公司採納的範圍內或通過採用源自類似行業或可比較交易的市場及外部可獲得的資料重新計算；及
- 關注減值評估在合併財務報表中的披露是否滿足現行會計準則披露。



# REPORT OF THE INDEPENDENT AUDITOR (CONTINUED)

## 獨立核數師報告(續)



### KEY AUDIT MATTERS (CONTINUED)

#### Classification of assets held for sale in respect of the disposal of a 90% equity interest in Guodian Solar Co., Ltd.

Refer to Note 28 to the consolidated financial statements and the accounting policies in Note 2(aa)(i).

#### The Key Audit Matter

For the year ended 31 December 2015, management decided to abandon all of the Group's operations under the solar power products and services segment, which constituted a major line of business of the Group.

Consequently, the Group adopted a disposal plan and on 3 May 2016 and 1 July 2016 the Company entered into a cooperation framework agreement and sale and purchase agreement (the "Agreements") with Tianjin Zhonghuan Semiconductor Co., Ltd. (the "Buyer") to dispose of a 90% equity interest in Guodian Solar Co., Ltd. ("GD Solar") in return for shares to be issued by the Buyer.

As at 31 December 2017, the disposal has not yet been completed as the Buyer is listed on the Shenzhen Stock Exchange and the completion of the disposal is subject to the approval of the China Securities Regulatory Commission ("CSRC").

As at 9 February 2018, the Buyer received a notice from CSRC in respect of the failure of obtaining approval of the above transaction.

#### How the matter was addressed in our audit

Our audit procedures to assess the classification of assets held for sale in respect of the disposal of a 90% equity interest in GD Solar included the following:

- inspecting management's disposal plan, minutes of director's meeting, the Agreements, correspondence with the Buyer, public announcements of the Buyer for the purposes of understanding the nature and status of the transaction and assessing whether the related accounting treatment adopted by management reflected the substance of the transaction with reference to the requirements of the prevailing accounting standards;
- evaluating management's identification of assets and associated liabilities included in the disposal group held for sale by inspecting the management's disposal plan and terms set out in the Agreements;

### 關鍵審計事項(續)

#### 處置國電光伏有限公司90%權益相關的持有待售資產重分類

參閱合併財務報表附註28和附註2(aa)(i)的會計政策。

#### 關鍵審計事項

截至2015年12月31日，管理層決定放棄貴集團主要業務之一，太陽能產品及服務業務的所有業務。

此後，貴集團制定了相關處置計劃並於2016年5月3日及2016年7月1日與天津中環半導體股份有限公司(「買方」)簽訂了合作框架協定及股權轉讓協定(「相關協議」)，出售國電光伏有限公司(「國電光伏」)90%的權益以換取買方發行的股份。

於2017年12月31日，上述交易尚未完成。因為買方為深圳證券交易所上市公司，該交易完成需獲得中國證券監督管理委員會(「中國證監會」)批准。

於2018年2月9日，買方收到中國證監會關於未能獲得上述交易批准的通知。

#### 我們的審計如何處理該事項

我們就處置國電光伏90%權益相關的持有待售資產重分類的審計程序包括以下程序：

- 檢查管理層相關處置計劃、董事會紀要、相關協議、與賣方的往來函件、買方對該交易的公告，以瞭解該交易的性質與進展並且根據現行會計準則要求，評估管理層對此採用的會計處理是否能反映該交易的實質；
- 通過檢查管理層處置計劃以及相關協議中所列具體條款，評估管理層對於持有待售資產組的資產及負債範圍的判斷；

## KEY AUDIT MATTERS (CONTINUED)

### Classification of assets held for sale in respect of the disposal of a 90% equity interest in Guodian Solar Co., Ltd. (continued)

Refer to Note 28 to the consolidated financial statements and the accounting policies in Note 2(aa)(i).

#### The Key Audit Matter (continued)

As at 23 March 2018, the Buyer convened a board meeting and decided to resubmit the application for approval of the above transaction to CSRC to address the concerns raised in the CSRC's notice. The directors of the Company are in the opinion that the completion of the disposal is highly probable.

The assets and liabilities of GD Solar, other than those that are not within the scope of disposal as set out in the Agreements, have been presented and measured as a disposal group classified as held for sale. As at 31 December 2017, the balance of the non-current assets and disposal group held for sale regarding to disposal amounted to RMB716 million.

We identified the classification of assets held for sale in respect of the disposal of a 90% equity interest in GD Solar as a key audit matter because of the classification of the disposal group as held for sale requires specific conditions to be met and because the related presentation and measurement has a significant effect on the consolidated financial statements.

#### How the matter was addressed in our audit (continued)

Our audit procedures to assess the classification of assets held for sale in respect of the disposal of a 90% equity interest in GD Solar included the following: (continued)

- assessing management's assertion that the completion of the disposal is highly probable based on the facts in relation to management's disposal plan, the authorities progress of the disposal and the status of application for approval by the Buyer to CSRC and correspondence and communication with the Buyer by the Company; and
- considering the disclosures in the consolidated financial statements in respect of the disposal of a 90% equity interest in GD Solar with reference to the requirements of the prevailing accounting standards.

## 關鍵審計事項(續)

### 處置國電光伏有限公司90%權益相關的持有待售資產重分類(續)

參閱合併財務報表附註28和附註2(aa)(i)的會計政策。

#### 關鍵審計事項(續)

於2018年3月23日，買方召開董事會會議，決定答覆上述通知中提出的問題，並繼續向中國證監會提交該交易的批准申請。貴集團董事會認為該項交易的極有可能完成。

國電光伏外的資產及負債，除不在相關協議中約定的擬處置範圍內的部分，均作持有待售處置組列示及計量。於2017年12月31日，該持有待售資產組賬面淨值為人民幣716百萬元。

我們把與處置國電光伏90%權益相關的持有待售資產重分類列為關鍵審計事項，因為分類至持有待售資產組需滿足多個特定條件，並且其相關列報和計量對該合併財務報表存在重大影響。

#### 我們的審計如何處理該事項(續)

我們就處置國電光伏90%權益相關的持有待售資產重分類的審計程序包括以下程序：(續)

- 評估管理層基於處置計劃、授權進展和買方自相關授權機構獲得批准的進展、與買方的溝通，是否足以支持該處置非常可能完成；及
- 參考現行會計準則，考慮貴集團合併財務報表中對國電光伏處置的披露。

# REPORT OF THE INDEPENDENT AUDITOR (CONTINUED)

## 獨立核數師報告(續)



### KEY AUDIT MATTERS (CONTINUED)

#### Tax provisioning

Refer to Note 8 and Note 32 to the consolidated financial statements and the accounting policies in Note 2(v).

#### The Key Audit Matter

The Group's entities operate in different tax jurisdictions across Mainland China and file income taxes with numerous local tax authorities. The Group is subject to aperiodic challenges by local tax authorities on a range of tax matters in the normal course of its business.

In addition, certain subsidiaries of the Group are approved High and New Technology Enterprises and are taxed at a preferential tax rate of 15%, as compared with the standard tax rate of 25%, for enterprise income tax during the approved period, subject to fulfilment of the annual qualification criteria and potential investigation by the local tax authorities.

Management determines the applicable tax rates for the calculation of current income tax and deferred income tax based on the expected tax rates that are likely to be approved by the local tax authorities according to the tax rules and regulations enacted at the end of the reporting period.

We identified tax provisioning as a key audit matter because significant management judgement can be required for in determining the provisions for taxation where the ultimate tax determinations may be uncertain.

#### How the matter was addressed in our audit

Our audit procedures to assess the provisions for taxation included the following:

- reading correspondence with the relevant local tax authorities and inspecting details of enquiries from the local tax authorities;
- challenging the appropriateness of the assumptions applied and estimates made in relation to tax provisioning by considering the range of possible outcomes that may be assessed under the applicable tax laws and regulations;
- involving our internal tax specialists to assist us in critically assessing the assumptions adopted by management in the calculation of provisions for taxation with reference to local tax rules and practices in different tax jurisdictions; and
- considering the tax disclosures in the consolidated financial statements with reference to the requirements of the prevailing accounting standards.

### 關鍵審計事項(續)

#### 稅款的計提

參閱合併財務報表附註8和附註32和附註2(v)的會計政策

#### 關鍵審計事項

貴集團的附屬公司在中國大陸的各個地區接受不同的稅收監管，並向眾多地方稅務機關申報繳納所得稅。各地稅務機關不定期對貴集團日常經營過程的各項稅務事項提出質疑。

此外，部分貴集團的附屬公司被認定為高新技術企業，在25%的法定稅率基礎上，高新技術認定有效期間內享受15%的優惠稅率，前提是滿足每年的資格標準並可能需要接受當地稅務機關檢查。

根據在報告期末有效的稅收法律法規，管理層基於可能被當地稅務機關認定的預期所得稅率，決定用於計算當期所得稅和遞延所得稅的適用稅率。

我們把稅款的計提列為關鍵審計事項，因為最終稅金金額的認定存在不確定性，稅金的計提涉及重大的管理層判斷。

#### 我們的審計如何處理該事項

我們就款項的計提的審計程序包括以下程序：

- 審閱相關當地稅務機關與貴集團的往來函件，檢查當地稅務機關對貴集團的質詢之詳情；
- 通過考慮在適用的法律法規下的可能作出的不同的稅項評估結果，質問管理層在計提稅款時使用的假設及作出的會計估計的合適性；
- 借助我們的內部稅務專家，協助我們參考地方稅收規定及實務的基礎上，合理評價管理層在計算稅款時使用的假設；及
- 根據現行會計準則，考慮合併財務報表中稅項的披露。



## REPORT OF THE INDEPENDENT AUDITOR (CONTINUED) 獨立核數師報告(續)



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

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

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

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

### RESPONSIBILITIES OF THE DIRECTORS 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.

The directors are assisted by the Audit Committee in discharging their responsibilities for overseeing the Group's financial reporting process.

### 合併財務報表及其核數師報告以外的其他資訊

董事須對其他資訊負責。其他資訊包括刊載於年報內的全部資訊，但不包括合併財務報表及我們的核數師報告。

我們對合併財務報表的意見並不涵蓋其他資訊，我們亦不對該等其他資訊發表任何形式的鑒證結論。

結合我們對合併財務報表的審計，我們的責任是閱讀其他資訊，在此過程中，考慮其他資訊是否與合併財務報表或我們在審計過程中所瞭解的情況存在重大抵觸或者似乎存在重大錯誤陳述的情況。

基於我們已執行的工作，如果我們認為其他資訊存在重大錯誤陳述，我們需要報告該事實。在這方面，我們沒有任何報告。

### 董事就合併財務報表須承擔的責任

董事須負責根據國際會計準則理事會頒佈的《國際財務報告準則》及香港《公司條例》的披露要求擬備真實而中肯的合併財務報表，並對其認為為使合併財務報表的擬備不存在由於欺詐或錯誤而導致的重大錯誤陳述所需的內部控制負責。

在擬備合併財務報表時，董事負責評估貴集團持續經營的能力，並在適用情況下披露與持續經營有關的事項，以及使用持續經營為會計基礎，除非董事有意將貴集團清盤或停止經營，或別無其他實際的替代方案。

審計委員會協助董事履行監督貴集團的財務報告過程的責任。

## REPORT OF THE INDEPENDENT AUDITOR (CONTINUED) 獨立核數師報告(續)



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

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. This report is made solely to you, as a body, 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 judgement and maintain professional scepticism throughout the audit. We also:

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

### 核數師就審計合併財務報表承擔的責任

我們的目標，是對合併財務報表整體是否不存在欺詐或錯誤而導致的重大錯誤陳述取得合理保證，並出具包括我們意見的核數師報告。我們僅向整體股東報告。除此以外，我們的報告不可用作其他用途。我們概不就本報告的內容，向任何其他人士負責或承擔法律責任。

合理保證是高水準的保證，但不能保證按照《香港審計準則》進行的審計，在某一重大錯誤陳述存在時總能發現。錯誤陳述可以由欺詐或錯誤引起，如果合理預期它們單獨或匯總起來可能影響合併財務報表使用者依賴合併財務報表所作出的經濟決定，則有關的錯誤陳述可被視作重大。

在根據《香港審計準則》進行審計的過程中，我們運用了專業判斷，保持了專業懷疑態度。我們亦：

- 識別和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這些風險，以及獲取充足和適當的審計憑證，作為我們意見的基礎。由於欺詐可能涉及串謀、偽造、蓄意遺漏、虛假陳述，或凌駕於內部控制之上，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。
- 瞭解與審計相關的內部控制，以設計適當的審計程序，但目的並非對貴集團內部控制的有效性發表意見。
- 評價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。



## REPORT OF THE INDEPENDENT AUDITOR (CONTINUED) 獨立核數師報告(續)

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

- 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.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

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

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

### 核數師就審計合併財務報表承擔的責任(續)

- 對董事採用持續經營會計基礎的恰當性作出結論。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。如果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合併財務報表中的相關披露。假若有關的披露不足，則我們應當發表非無保留意見。我們的結論是基於核數師報告日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不能持續經營。
- 評價合併財務報表的整體列報方式、結構和內容，包括披露，以及合併財務報表是否中肯反映交易和事項。
- 就貴集團內實體或業務活動的財務資訊獲取充足、適當的審計憑證，以便對合併財務報表發表意見。我們負責貴集團審計的方向、監督和執行。我們為審計意見承擔全部責任。

除其他事項外，我們與審計委員會溝通了計劃的審計範圍、時間安排、重大審計發現等，包括我們在審計中識別出內部控制的任何重大缺陷。

我們還向審計委員會提交聲明，說明我們已符合有關獨立性的相關專業道德要求，並與他們溝通有可能合理地被認為會影響我們獨立性的所有關係和其他事項，以及在適用的情況下，相關的防範措施。





## REPORT OF THE INDEPENDENT AUDITOR (CONTINUED) 獨立核數師報告(續)



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

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

The engagement partner on the audit resulting in this independent auditor's report is Ho Ying Man, Simon.

#### **KPMG**

*Certified Public Accountants*

8th Floor, Prince's Building  
10 Chater Road  
Central, Hong Kong

29 March 2018

### 核數師就審計合併財務報表承擔的責任(續)

從與審計委員會溝通的事項中，我們確定哪些事項對本期合併財務報表的審計最為重要，因而構成關鍵審計事項。我們在核數師報告中描述這些事項，除非法律法規不允許公開披露這些事項，或在極端罕見的情況下，如果合理預期在我們報告中溝通某事項造成的負面後果超過產生的公眾利益，我們決定不應在報告中溝通該事項。

出具本獨立核數師報告的審計項目合夥人是何應文。

#### **畢馬威會計師事務所**

*執業會計師*

香港中環  
遮打道10號  
太子大廈8樓

2018年3月29日

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS

## 合併損益表

For the year ended 31 December 2017 (Expressed in Renminbi ("RMB"))  
截至2017年12月31日止年度(以人民幣列示)

		Note 附註	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
<b>Continuing operations</b>	<b>持續經營業務</b>			
Revenue	收入	4	<b>11,703,002</b>	15,893,049
Cost of sales	銷售成本		<b>(8,847,401)</b>	(12,304,828)
<b>Gross profit</b>	<b>毛利</b>		<b>2,855,601</b>	3,588,221
Other revenue	其他收入	5	<b>355,111</b>	309,050
Other net income	其他收益淨額	5	<b>560,218</b>	328,798
Selling and distribution expenses	銷售及分銷開支		<b>(945,493)</b>	(1,366,875)
Administrative expenses	行政開支		<b>(1,720,956)</b>	(1,841,622)
<b>Profit from operations</b>	<b>經營利潤</b>		<b>1,104,481</b>	1,017,572
Finance costs	財務成本	6	<b>(563,800)</b>	(590,443)
Share of profits less losses of associates	應佔聯營公司利潤減虧損		<b>86,734</b>	102,211
<b>Profit before taxation from continuing operations</b>	<b>來自持續經營業務之稅前利潤</b>	7	<b>627,415</b>	529,340
Income tax	所得稅	8	<b>(180,936)</b>	(123,500)
<b>Profit for the year from continuing operations</b>	<b>本年來自持續經營業務之利潤</b>		<b>446,479</b>	405,840
<b>Discontinued operation</b>	<b>已終止經營業務</b>			
Loss for the year from discontinued operation	本年來自已終止經營之業務虧損	11	<b>(355,709)</b>	(134,089)
<b>Profit for the year</b>	<b>本年利潤</b>		<b>90,770</b>	271,751
<b>Attributable to:</b>	<b>歸屬於：</b>			
Equity shareholders of the Company	本公司權益股東		<b>43,703</b>	320,672
Non-controlling interests	非控股權益		<b>47,067</b>	(48,921)
<b>Profit for the year</b>	<b>本年利潤</b>		<b>90,770</b>	271,751
<b>Basic and diluted earnings/(loss) per share</b> (expressed in RMB cent)	<b>每股基本及攤薄盈利/(虧損)</b> (以人民幣分列示)	12		
- Continuing and discontinued operations	- 持續經營業務和已終止經營業務		<b>0.72</b>	5.29
- Continuing operations	- 持續經營業務		<b>6.55</b>	7.48
- Discontinued operation	- 已終止經營業務		<b>(5.83)</b>	(2.19)

The notes on pages 193 to 327 form part of these financial statements.

193至327頁的附註為此等財務報表的一部分。

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

## 合併損益及其他綜合收益表

For the year ended 31 December 2017 (Expressed in RMB)  
截至2017年12月31日止年度(以人民幣列示)



		<b>2017</b> <b>RMB'000</b> 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
<b>Profit for the year</b>	本年利潤	<b>90,770</b>	271,751
<b>Other comprehensive income for the year (after tax and reclassification adjustments)</b>	本年其他綜合收益 (稅後及重新分類調整後)		
Items that may be reclassified subsequently to profit or loss:	其後將重新分類計入損益的項目：		
– Exchange differences on translation of financial statements of operations outside the People's Republic of China (the "PRC")	– 換算中華人民共和國(「中國」)境外業務財務報表產生的匯兌差額	<b>(1,022)</b>	1,268
– Reclassification adjustment for amounts transferred to profit or loss as closure of an operation outside the PRC	– 重新分類因註銷中國境外附屬公司產生的計入損益的金額	<b>(265)</b>	–
<b>Other comprehensive income for the year</b>	本年其他綜合收益	<b>(1,287)</b>	1,268
<b>Total comprehensive income for the year</b>	本年綜合收益總額	<b>89,483</b>	273,019
<b>Attributable to:</b>	歸屬於：		
Equity shareholders of the Company	本公司權益股東	<b>42,416</b>	321,940
Non-controlling interests	非控股權益	<b>47,067</b>	(48,921)
<b>Total comprehensive income for the year</b>	本年綜合收益總額	<b>89,483</b>	273,019

The notes on pages 193 to 327 form part of these financial statements.

193至327頁的附註為此等財務報表的一部分。

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## 合併財務狀況表

As at 31 December 2017 (Expressed in RMB)  
於2017年12月31日(以人民幣列示)

			2017	2016
	Note		RMB'000	RMB'000
	附註		人民幣千元	人民幣千元 (restated) (重述)
<b>Non-current assets</b>		<b>非流動資產</b>		
Property, plant and equipment	13	物業、廠房及設備	4,472,199	4,860,466
Investment properties	14	投資性物業	235,197	246,039
Lease prepayments	15	預付土地租賃款	309,883	330,736
Intangible assets	16	無形資產	1,163,921	1,197,118
Goodwill	17	商譽	57,591	57,591
Interests in associates	19	對聯營公司的投資	419,952	412,801
Other equity investments	20	其他權益投資	162,187	162,187
Other non-current assets	21	其他非流動資產	3,306,106	4,004,969
Deferred tax assets	32(b)	遞延稅項資產	724,191	613,181
<b>Total non-current assets</b>		<b>非流動資產總額</b>	<b>10,851,227</b>	11,885,088
<b>Current assets</b>		<b>流動資產</b>		
Inventories	22	存貨	3,145,414	2,733,252
Gross amounts due from customers for contract work	23	應收建造合同客戶款項總額	1,324,257	1,443,384
Trade and bills receivables	24	應收賬款及票據	12,842,798	14,069,033
Deposits, prepayments and other receivables	25	按金、預付款項及其他應收款項	2,001,198	2,400,362
Tax recoverable	32(a)	可收回稅項	132,988	151,722
Restricted deposits	26	受限制存款	192,835	171,539
Cash at bank and in hand	27	銀行存款及庫存現金	4,305,074	4,664,110
Assets held for sale	28	持有待售資產	812,459	2,699,889
<b>Total current assets</b>		<b>流動資產總額</b>	<b>24,757,023</b>	28,333,291
<b>Current liabilities</b>		<b>流動負債</b>		
Borrowings	29(b)	借款	7,699,284	8,478,005
Trade and bills payables	30	應付賬款及票據	9,684,721	10,858,105
Other payables	31	其他應付款項	3,372,339	3,627,212
Gross amounts due to customers for contract work	23	應付建造合同客戶款項總額	922,598	1,022,644
Income tax payable	32(a)	應付所得稅	44,312	51,681
Provision for warranty	33	質保金撥備	170,558	255,294
Liabilities held for sale	28	持有待售負債	70,679	1,196,294
<b>Total current liabilities</b>		<b>流動負債總額</b>	<b>21,964,491</b>	25,489,235
<b>Net current assets</b>		<b>流動資產淨額</b>	<b>2,792,532</b>	2,844,056
<b>Total assets less current liabilities</b>		<b>資產總額減流動負債</b>	<b>13,643,759</b>	14,729,144

The notes on pages 193 to 327 form part of these financial statements.

193至327頁的附註為此等財務報表的一部分。

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

## 合併財務狀況表(續)

As at 31 December 2017 (Expressed in RMB)  
於2017年12月31日(以人民幣列示)



			<b>2017</b>	2016
		<i>Note</i>	<b>RMB'000</b>	RMB'000
		<i>附註</i>	人民幣千元	人民幣千元
				(restated)
				(重述)
<b>Non-current liabilities</b>	<b>非流動負債</b>			
Borrowings	借款	29(a)	<b>4,053,705</b>	5,115,637
Deferred income	遞延收益	34	<b>368,557</b>	378,886
Deferred tax liabilities	遞延稅項負債	32(b)	<b>207,269</b>	205,338
Provision for warranty	質保金撥備	33	<b>676,958</b>	737,796
Other non-current liabilities	其他非流動負債	35	<b>404,005</b>	222,932
<b>Total non-current liabilities</b>	<b>非流動負債總額</b>		<b>5,710,494</b>	6,660,589
<b>NET ASSETS</b>	<b>資產淨額</b>		<b>7,933,265</b>	8,068,555
<b>CAPITAL AND RESERVES</b>	<b>資本及儲備</b>			
Share capital	股本	36(c)	<b>6,063,770</b>	6,063,770
Reserves	儲備		<b>(1,199,226)</b>	(1,071,594)
<b>Total equity attributable to equity shareholders of the Company</b>	<b>歸屬於本公司權益股東的權益總額</b>		<b>4,864,544</b>	4,992,176
Non-controlling interests	非控股權益		<b>3,068,721</b>	3,076,379
<b>TOTAL EQUITY</b>	<b>權益總額</b>		<b>7,933,265</b>	8,068,555

Approved and authorised for issue by the Board of Directors on 29 March 2018.

董事會於2018年3月29日批准及授權刊發。

**CHEN Dongqing 陳冬青**  
Executive Director 執行董事

**TANG Chaoxiong 唐超雄**  
Executive Director 執行董事

The notes on pages 193 to 327 form part of these financial statements.

193至327頁的附註為此等財務報表的一部分。

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

## 合併權益變動表

For the year ended 31 December 2017 (Expressed in RMB)  
截至2017年12月31日止年度(以人民幣列示)

		Attributable to equity shareholders of the Company 歸屬本公司權益股東						Non- controlling interests	Total equity
		Share capital	Capital reserve	PRC statutory reserve	Exchange reserve	Accumulated loss	Sub-total		
		股本	資本儲備	中國法定 公積金	匯兌儲備	累積虧損	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
		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 36(c)	Note 36(d)(i)	Note 36(d)(ii)	Note 36(d)(iii)				
		附註36(c)	附註36(d)(i)	附註36(d)(ii)	附註36(d)(iii)				
<b>Balance at 1 January 2017 (as previously reported)</b>	<b>2017年1月1日結餘(往期披露)</b>	<b>6,063,770</b>	<b>1,071,707</b>	<b>129,332</b>	<b>2,282</b>	<b>(2,348,260)</b>	<b>4,918,831</b>	<b>3,076,379</b>	<b>7,995,210</b>
Effect on acquisition of a subsidiary under common control	收購同一控制下附屬公司的影響	-	30,000	-	-	43,345	73,345	-	73,345
<b>Balance at 1 January 2017 (restated)</b>	<b>2017年1月1日結餘(重述)</b>	<b>6,063,770</b>	<b>1,101,707</b>	<b>129,332</b>	<b>2,282</b>	<b>(2,304,915)</b>	<b>4,992,176</b>	<b>3,076,379</b>	<b>8,068,555</b>
<b>Changes in equity for 2017:</b>	<b>2017年權益變動:</b>								
Profit for the year	本年利潤	-	-	-	-	43,703	43,703	47,067	90,770
Other comprehensive income	其他綜合收益	-	-	-	(1,287)	-	(1,287)	-	(1,287)
Total comprehensive income	綜合收益總額	-	-	-	(1,287)	43,703	42,416	47,067	89,483
Dividends to the previous equity owner of the subsidiary acquired under common control	向收購的同一控制下附屬公司的原權益所有者支付股息	-	-	-	-	(38,489)	(38,489)	-	(38,489)
Disposal of subsidiaries	處置附屬公司	-	-	-	-	-	-	(112,762)	(112,762)
Dividends paid by subsidiaries to non-controlling equity owners	附屬公司向非控股權益所有者支付股息	-	-	-	-	-	-	(25,365)	(25,365)
Acquisition of a subsidiary under common control	收購同一控制下附屬公司	-	(48,157)	-	-	-	(48,157)	-	(48,157)
Reclassification of non-controlling interests due to liquidation of a subsidiary (Note 36(e))	因清算附屬公司重分類非控股權益(附註36(e))	-	-	-	-	(83,402)	(83,402)	83,402	-
<b>Balance at 31 December 2017</b>	<b>2017年12月31日結餘</b>	<b>6,063,770</b>	<b>1,053,550</b>	<b>129,332</b>	<b>995</b>	<b>(2,383,103)</b>	<b>4,864,544</b>	<b>3,068,721</b>	<b>7,933,265</b>

The notes on pages 193 to 327 form part of these financial statements.

193至327頁的附註為此等財務報表的一部分。



# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)

## 合併權益變動表(續)

For the year ended 31 December 2016 (Expressed in RMB)  
截至2016年12月31日止年度(以人民幣列示)



		Attributable to equity shareholders of the Company 歸屬本公司權益股東						Non- controlling interests	Total equity
		Share capital	Capital reserve	PRC statutory reserve 中國法定 公積金	Exchange reserve 匯兌儲備	Accumulated loss 累積虧損	Sub-total		
		股本	資本儲備				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
		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 36(c)	Note 36(d)(i)	Note 36(d)(ii)	Note 36(d)(iii)				
		附註36(c)	附註36(d)(i)	附註36(d)(ii)	附註36(d)(iii)				
<b>Balance at 1 January 2016 (as previously reported)</b>	<b>2016年1月1日結餘(往期披露)</b>	6,063,770	1,062,980	129,332	1,014	(2,650,632)	4,606,464	3,296,489	7,902,953
Effect on acquisition of a subsidiary under common control	收購同一控制下附屬公司的影響	-	30,000	-	-	25,045	55,045	-	55,045
<b>Balance at 1 January 2016 (restated)</b>	<b>2016年1月1日結餘(重述)</b>	6,063,770	1,092,980	129,332	1,014	(2,625,587)	4,661,509	3,296,489	7,957,998
<b>Changes in equity for 2016:</b>	<b>2016年權益變動:</b>								
Profit/(loss) for the year (restated)	本年利潤/(虧損)(重述)	-	-	-	-	320,672	320,672	(48,921)	271,751
Other comprehensive income	其他綜合收益	-	-	-	1,268	-	1,268	-	1,268
Total comprehensive income (restated)	綜合收益總額(重述)	-	-	-	1,268	320,672	321,940	(48,921)	273,019
Disposal of subsidiaries	處置附屬公司	-	-	-	-	-	-	(10,513)	(10,513)
Disposal of equity interests in a subsidiary to non-controlling equity owners	處置附屬公司權益給非控股權益所有者	-	8,727	-	-	-	8,727	(8,727)	-
Dividends paid by subsidiaries to non-controlling equity owners	附屬公司向非控股權益所有者支付股息	-	-	-	-	-	-	(151,949)	(151,949)
<b>Balance at 31 December 2016 (restated)</b>	<b>2016年12月31日結餘(重述)</b>	6,063,770	1,101,707	129,332	2,282	(2,304,915)	4,992,176	3,076,379	8,068,555

The notes on pages 193 to 327 form part of these financial statements.

193至327頁的附註為此等財務報表的一部分。

# CONSOLIDATED STATEMENT OF CASH FLOWS

## 合併現金流量表

For the year ended 31 December 2017 (Expressed in RMB)  
截至2017年12月31日止年度(以人民幣列示)

			2017	2016
		Note	RMB'000	RMB'000
		附註	人民幣千元	人民幣千元 (restated) (重述)
<b>Cash flows from operating activities</b>	<b>來自經營活動的現金流</b>			
Profit/(Loss) before taxation	稅前利潤/(虧損)		<b>273,157</b>	395,251
– Continuing operations	– 持續經營業務		<b>627,415</b>	529,340
– Discontinued operation	– 已終止經營業務	11	<b>(354,258)</b>	(134,089)
Adjustments for:	調整為：			
Depreciation	折舊	7(b)	<b>453,938</b>	565,971
Amortisation	攤銷	7(b)	<b>78,769</b>	100,071
Net gain on disposals of property, plant and equipment and intangible assets	出售物業、廠房及設備、無形資產收益淨額	5	<b>(4,925)</b>	(81,834)
Impairment loss on trade and other receivables	應收賬款及其他應收款項減值虧損	7(b)	<b>278,684</b>	17,159
Impairment loss on property, plant and equipment	物業、廠房及設備減值虧損	7(b)	<b>105,111</b>	229,343
Reversal of impairment loss on lease prepayments	預付土地租賃款減值損失轉回	7(b)	–	(11,895)
Impairment loss on intangible assets	無形資產減值損失	7(b)	<b>31,969</b>	–
Impairment loss/(reversal of impairment loss) of other non-current assets	其他非流動資產減值損失/(轉回)	7(b)	<b>171,175</b>	(53,543)
Write down of inventories	存貨撇減	22(b)	<b>1,612</b>	22,022
Finance costs	財務成本	6	<b>570,695</b>	738,198
Interest income	利息收入	5	<b>(119,642)</b>	(86,113)
Government grants	政府補助	34	<b>(21,367)</b>	(49,258)
Dividend income from unquoted equity securities	非上市權益證券的股息收入	5	<b>(16,700)</b>	(18,982)
Net gain on disposals of subsidiaries and interest in an associate	處置附屬公司及一家聯營公司股份淨收益	5	<b>(561,454)</b>	(188,947)
Share of profits less losses of associates	應佔聯營公司利潤減虧損		<b>(86,734)</b>	(102,211)
Impairment loss on assets held for sale	劃分為持有待售資產減值損失	7(b)	<b>17,968</b>	9,059
Gain on debt restructuring and reversal of accrued payables	債務重組利得和衝回計提的應付款項		<b>(117,186)</b>	(78,172)

The notes on pages 193 to 327 form part of these financial statements

193至327頁的附註為此等財務報表的一部分。

# CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

## 合併現金流量表(續)

For the year ended 31 December 2017 (Expressed in RMB)  
截至2017年12月31日止年度(以人民幣列示)



	Note 附註	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
<b>Cash flows from operating activities (continued)</b>			
Changes in working capital: 營運資金的變化			
(Increase)/decrease in inventories 存貨(增加)/減少		<b>(415,787)</b>	610,728
Decrease in gross amounts due from customers for contract work 應收建造合同客戶款項總額的減少		<b>119,127</b>	651,747
Decrease/(increase) in trade and bills receivables 應收賬款及票據的減少/(增加)		<b>1,224,545</b>	(414,685)
(Increase)/decrease in deposits, prepayments and other receivables 按金、預付款項和其他應收款項的(增加)/減少		<b>(128,645)</b>	162,622
Decrease in other non-current assets 其他非流動資產的減少		<b>897,181</b>	595,806
Decrease in trade and bills payables 應付賬款及票據的減少		<b>(1,355,637)</b>	(1,271,636)
Increase/(decrease) in other payables 其他應付款項的增加/(減少)		<b>120,493</b>	(275,254)
(Decrease)/increase in gross amounts due to customers for contract work 應付建造合同客戶款項總額的(減少)/增加		<b>(100,046)</b>	240,099
(Decrease)/increase in provision for warranty 質保金撥備的(減少)/增加		<b>(135,290)</b>	207,613
Decrease in assets held for sale 持有待售資產的減少		<b>6,964</b>	-
<b>Cash generated from operations</b>		<b>1,287,975</b>	1,913,159
Income tax paid 已付所得稅	32(a)	<b>(280,231)</b>	(353,938)
<b>Net cash generated from operating activities</b>		<b>1,007,744</b>	1,559,221

The notes on pages 193 to 327 form part of these financial statements

193至327頁的附註為此等財務報表的一部分。



## CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED) 合併現金流量表(續)

For the year ended 31 December 2017 (Expressed in RMB)  
截至2017年12月31日止年度(以人民幣列示)

	Note 附註	2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
<b>Cash flows from investing activities</b>			
<b>投資活動產生的現金流</b>			
Payments for purchase of property, plant and equipment, lease prepayments and intangible assets	採購物業、廠房及設備，預付土地租賃款及無形資產支出	<b>(389,275)</b>	(573,787)
Disposals of interests in subsidiaries, net of cash disposed of	出售附屬公司扣除處置之現金淨額	<b>769,505</b>	(8,524)
Disposals of interest in an associate	出售聯營公司收益	-	286,289
Cash and cash equivalents reclassified as assets held-for-sale	劃分為持有待售的現金及現金等價物	<b>(75)</b>	(256,890)
Payments for advances to related parties	給關聯方的墊款	<b>(44,269)</b>	(118,339)
Proceeds from repayment of advances by related parties	關聯方償還墊款	<b>512,546</b>	181,048
Increase in deposits with banks	銀行存款的增加	<b>(1,672,000)</b>	(29,808)
Withdrawal of deposits with banks	銀行存款的提取	<b>1,582,008</b>	553,100
Government grants received	收到的政府補助	<b>11,038</b>	3,582
Investment in an associate	投資聯營公司	-	(127,850)
Proceeds from disposals of property, plant and equipment and intangible assets	出售物業、廠房及設備及無形資產所得款項	<b>177,473</b>	2,697,912
Dividends received	已收股息	<b>97,705</b>	49,120
Interest received	已收利息	<b>54,196</b>	49,703
Deposits received for disposals of assets held for sale	處置持有待售資產收到的按金	-	3,000
Payments for acquisition of a subsidiary under common control	支付收購一家同一控制下附屬公司款項	<b>(20,000)</b>	-
<b>Net cash generated from investing activities</b>	<b>投資活動產生的淨現金</b>	<b>1,078,852</b>	2,708,556

The notes on pages 193 to 327 form part of these financial statements

193至327頁的附註為此等財務報表的一部分。

## CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

### 合併現金流量表(續)

For the year ended 31 December 2017 (Expressed in RMB)  
截至2017年12月31日止年度(以人民幣列示)



			<b>2017</b>	2016
		<i>Note</i>	<b><i>RMB'000</i></b>	<i>RMB'000</i>
		<i>附註</i>	<b>人民幣千元</b>	人民幣千元
				(restated)
				(重述)
<b>Cash flows from financing activities</b>	<b>融資活動產生的現金流</b>			
Proceeds from borrowings	貸款所得款項	276	<b>8,248,231</b>	8,023,069
Proceeds from issuing private placement notes	發行私人配售債務融資工具所得款項		-	1,387,400
Decrease in restricted deposits	受限制存款的減少		<b>635,479</b>	136,492
Increase in restricted deposits	受限制存款的增加		<b>(656,775)</b>	(132,017)
Repayment of advances from related parties	關聯方償還墊款		<b>(9)</b>	(46,156)
Repayment of borrowings and corporate bonds	償還貸款及公司債券	276	<b>(10,088,100)</b>	(10,733,147)
Dividends paid to the previous equity owner by the subsidiary acquired under common control	向收購的同一控制下附屬公司的原權益所有者支付股息		<b>(38,489)</b>	-
Dividends paid by subsidiaries to non-controlling equity owners	附屬公司向非控股權益所有者支付股息		<b>(42,026)</b>	(126,627)
Interest paid	已付利息	276	<b>(584,124)</b>	(683,027)
<b>Net cash used in financing activities</b>	<b>融資活動使用的淨現金</b>		<b>(2,525,813)</b>	(2,174,013)
<b>Net (decrease)/increase in cash and cash equivalents</b>	<b>現金及現金等價物的淨(減少)/增加額</b>		<b>(439,217)</b>	2,093,764
<b>Cash and cash equivalents at 1 January</b>	<b>於1月1日的現金及現金等價物</b>		<b>4,443,102</b>	2,339,789
Effect of foreign exchange rate changes	外匯匯率變化的影響		<b>(9,811)</b>	9,549
<b>Cash and cash equivalents at 31 December</b>	<b>於12月31日的現金及現金等價物</b>	<b>27</b>	<b>3,994,074</b>	4,443,102

The notes on pages 193 to 327 form part of these financial statements

193至327頁的附註為此等財務報表的一部分。



# NOTES TO THE FINANCIAL STATEMENTS

## 財務報表附註

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 1 ORGANISATION

Guodian Technology & Environment Group Corporation Limited (the “**Company**”) was formerly known as Guodian Technology & Environment Group Limited Liability Company and was established on 6 April 2001 as a state-owned enterprise with limited liability. The Company was converted to a joint stock company with limited liability in the PRC on 16 May 2011 (the “**Conversion**”). On 30 December 2011, the Company’s H shares were listed on The Stock Exchange of Hong Kong Limited (the “**Stock Exchange**”).

### 2 SIGNIFICANT ACCOUNTING POLICIES

#### (a) Statement of compliance

These financial statements have been prepared in accordance with all applicable International Financial Reporting Standards (“**IFRSs**”), which collective term includes all applicable individual International Financial Reporting Standards, International Accounting Standards (“**IASs**”) and Interpretations issued by the International Accounting Standards Board (“**IASB**”) and the disclosure requirements of the Hong Kong Companies Ordinance. These financial statements also comply with the applicable disclosure provisions of the Rules Governing the Listing of Securities on the Stock Exchange. Significant accounting policies adopted by the Group are set out below.

The IASB has issued certain new and revised IFRSs that are first effective or available for early adoption for the current accounting period of the Group. Note 2(c) provides information on any changes in accounting policies resulting from initial application of these developments to the extent that they are relevant to the Group for the current and prior accounting periods reflected in these financial statements.

#### (b) Basis of preparation of the financial statements

The consolidated financial statements for the year ended 31 December 2017 comprise the Company and its subsidiaries (together referred to as the “**Group**”) and the Group’s interest in associates.

The measurement basis used in the preparation of the financial statements is the historical cost basis.

Non-current assets and disposal groups held for sale are stated at the lower of carrying amount and fair value less cost to sell (see Note 2 (aa)).

### 1 組織

國電科技環保集團股份有限公司(「**本公司**」)前身為國電科技環保集團有限公司，為國有有限責任企業及成立於2001年4月6日。本公司於2011年5月16日轉制為中國股份有限公司(「**轉制**」)。2011年12月30日，本公司的H股在香港聯合交易所有限公司(「**香港聯交所**」)上市。

### 2 主要會計政策

#### (a) 合規聲明

此等財務報表依據國際會計準則理事會頒佈的所有適用的《國際財務報告準則》(該統稱包括所有適用的單項《國際財務報告準則》、《國際會計準則》和詮釋)而編製，並符合香港《公司條例》中適用的披露規定。此等財務報表也符合《香港聯合交易所有限公司證券上市規則》中適用的披露規定。本集團所採納的重大會計政策概要如下。

國際會計準則理事會已頒佈若干新訂及經修訂的《國際財務報告準則》，並於本集團及本公司的當前會計期間首次生效或可提早採納。因首次採納此等已反映在財務報表中與本集團當期或過往會計期間相關的新準則而導致的會計政策變動的信息載於附註2(c)。

#### (b) 財務報表編製基礎

截至2017年12月31日止年度的合併財務報表包括本公司及其附屬公司(統稱為「**本集團**」)及本集團對聯營公司的權益。

財務報表編製中使用的計量基礎是歷史成本基礎。

持有待售的非流動資產和處置組按賬面價值與公允價值減去處置費用的較低者列示(見附註2(aa))。



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

## 2 主要會計政策(續)

### (b) Basis of preparation of the financial statements (continued)

The preparation of financial statements in conformity with IFRSs requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, income and expenses. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis of making the judgements about carrying values of assets and liabilities that are not readily apparent from other sources. 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.

Judgements made by management in the application of IFRSs that have significant effect on these financial statements and major sources of estimation uncertainty are discussed in Note 3.

### (c) Changes in accounting policies

The IASB has issued several amendments to IFRSs that are first effective for the current accounting period of the Group. None of these impact on the accounting policies of the Group. However, additional disclosure has been included in Note 27(b) to satisfy the new disclosure requirements introduced by the amendments to IAS 7, *Statement of cash flows: Disclosure initiative*, which require entities to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes.

The Group has not applied any new standard or interpretation that is not yet effective for the current accounting period.

### (d) Functional and presentation currency

These financial statements are presented in RMB, rounded to the nearest thousand, which is the functional currency of the Company and its subsidiaries established in the PRC (“**PRC Subsidiaries**”) carrying on the principal activities of the Group. The functional currencies of the Company’s subsidiaries in Hong Kong and United States are Hong Kong dollars (“**HKD**”) and United States dollars (“**USD**”) respectively.

### (b) 財務報表編製基礎(續)

編製符合《國際財務報告準則》規定的財務報表要求管理層作出判斷、估計和假設，而該等判斷、估計和假設會影響政策的應用和資產、負債、收入以及支出的報告金額。估計和相關假設系基於過往經驗和在該情況下被認為是合理的各種其他因素，並因此形成判斷目前無法從其他來源而得出的資產和負債賬面價值的依據。實際結果可能有別於這些估計。

各項估計和相關假設會被持續審閱。如果會計估計的修訂僅影響作出有關修訂的期間，則有關修訂在當期確認；但如果會計估計的修訂對當期和以後的期間均有影響，則會在作出有關修訂的期間和以後的期間內確認。

管理層在應用《國際財務報告準則》時所作出且對財務報表有重大影響之判斷，以及估算產生不確定性之主要來源，詳述於附註3。

### (c) 會計政策變更

國際會計準則理事會頒佈了《國際財務報告準則》之若干修訂，他們在本集團現行會計期間首次生效。上述變動對本集團的會計政策並沒有影響。但為滿足IAS 7：現金流量表的修正案所提出的新的披露要求，即要求實體主動提供信息使財務報表使用者能評估融資活動導致的負債變化，包括現金流及非現金方面引起的變化，在附註27(b)進行了補充披露。

本集團並未採用任何本會計期間尚未生效的新的準則或詮釋。

### (d) 功能及列報貨幣

此等財務報表均以本公司及在中國設立的附屬公司(「**中國附屬公司**」)開展本集團經營活動所採用的功能貨幣人民幣列示，約至最接近的千位。本公司在香港和美國的各附屬公司的功能貨幣分別為港元和美元。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (e) Subsidiaries and non-controlling interests

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. When assessing whether the Group has power, only substantive rights (held by the Group and other parties) are considered.

An investment in a subsidiary is consolidated into the consolidated financial statements from the date that control commences until the date that control ceases. Intra-group balances, transactions and cash flows and any unrealised profits arising from intra-group transactions are eliminated in full in preparing the consolidated financial statements. Unrealised losses resulting from intra-group transactions are eliminated in the same way as unrealised gains but only to the extent that there is no evidence of impairment.

Non-controlling interests represent the equity in a subsidiary not attributable directly or indirectly to the Company, and in respect of which the Group has not agreed any additional terms with the holders of those interests which would result in the Group as a whole having a contractual obligation in respect of those interests that meets the definition of a financial liability. For each business combination, the Group can elect to measure any non-controlling interests either at fair value or at the non-controlling interests' proportionate share of the subsidiary's net identifiable assets.

Non-controlling interests are presented in the consolidated statement of financial position within equity, separately from equity attributable to the equity shareholders of the Company. Non-controlling interests in the results of the Group are presented on the face of the consolidated statement of profit or loss and the consolidated statement of profit or loss and other comprehensive income as an allocation of the total profit or loss and total comprehensive income for the year between non-controlling interests and the equity shareholders of the Company. Loans from holders of non-controlling interests and other contractual obligations towards these holders are presented as financial liabilities in the consolidated statement of financial position in accordance with Notes 2(r) or (s) depending on the nature of the liability.

#### (e) 附屬公司及非控股權益

附屬公司是由本集團控制的實體。當本集團承擔相應風險或有權通過參與實體之業務獲得可變動回報，並能夠通過其對實體的權力對這些回報施加影響，則視為本集團對該實體有控制權。在評估本集團是否有權力，僅需考慮其實質權利(本集團及其他方所持有的)。

自控制開始之日起至控制終止之日，將對附屬公司的投資併入合併財務報表中。在編製合併財務報表時，全數抵銷集團內部交易產生的集團內部結餘、交易現金流量以及任何未實現利潤。集團內部交易產生的未實現損失以未實現利潤相同的方式作抵銷，但僅限於沒有減值證據的部份。

非控股權益是指非本公司直接或間接應佔的附屬公司權益，且本集團並無與相關權益持有人另行訂立條款而導致本集團整體須根據其所佔權益承擔符合金融負債定義的合同責任。對於各業務合併而言，本集團可以選擇按公允價值或按本集團佔附屬公司的可識別淨資產的比例而計量任何非控股權益。

非控股權益在合併財務狀況表的權益中列示，惟與本公司權益股東應佔權益分開。非控股權益持有人所佔本集團的業績，會按照該年度的損益總額及所有綜合收益總額在非控股權益持有人與本公司權益股東之間進行分配，並在合併損益表以及合併損益及其他合併綜合收益表呈列。來自非控股權益持有人的借貸及對該持有人的其他合同責任，會視乎負債的性質，並按照附註2(r)或(s)於合併財務狀況表中呈列為金融負債。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

### (e) Subsidiaries and non-controlling interests (continued)

Changes in the Group's interests in a subsidiary that do not result in a loss of control are accounted for as equity transactions, whereby adjustments are made to the amounts of controlling and non-controlling interests within consolidated equity to reflect the change in relative interests, but no adjustments are made to goodwill and no gain or loss is recognised.

When the Group loses control of a subsidiary, it is accounted for as a disposal of the entire interest in that subsidiary, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former subsidiary at the date when control is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (see Note 2(i)) or, when appropriate, the cost on initial recognition of an investment in an associate or joint venture.

In the Company's statement of financial position, an investment in a subsidiary is stated at cost less impairment losses (see Note 2(n)(ii)), unless the investment is classified as held for sale (or included in a disposal group that is classified as held for sale) (see Note 2(aa)).

### (f) Associates

An associate is an entity in which the Group or Company has significant influence, but not control or joint control, over its management, including participation in the financial and operating policy decisions.

An investment in an associate is accounted for in the consolidated financial statements under the equity method. Under the equity method, the investment is initially recorded at cost, adjusted for any excess of the Group's share of the acquisition-date fair values of the investee's identifiable net assets over the cost of the investment (if any). Thereafter, the investment is adjusted for the post-acquisition change in the Group's share of the investee's net assets and any impairment loss relating to the investment (see Notes 2(i) and (n)). Any acquisition-date excess over cost, the Group's share of the post-acquisition, post-tax results of the investees and any impairment losses for the year are recognised in the consolidated statement of profit or loss, whereas the Group's share of the post-acquisition post-tax items of the investees' other comprehensive income is recognised in the consolidated statement of profit or loss and other comprehensive income.

### (e) 附屬公司及非控股權益(續)

本集團於附屬公司的權益如發生變動但不會造成喪失控制權，則該變動乃按權益交易的方式入賬，即僅調整在合併權益內的控股及非控股權益金額，以反映其相關權益的變動，但不會調整商譽及不會確認盈虧。

當本集團喪失一家附屬公司的控股權，則按出售該附屬公司的所有權益入賬，而所產生的盈虧將確認為損益。於喪失控股權當日仍保留於前附屬公司的任何權益乃按公允價值確認，而該金額將被視為一項金融資產(見附註2(i))初始確認的公允價值或(如適用)一項對聯營公司或合營公司之投資的初始確認的成本。

在本公司的財務狀況表中，對附屬公司的投資是按成本減去減值虧損(見附註2(n)(ii))後入賬，除非該投資被列為持有待售(或被包含在分類為待售的處置組中)(見附註2(aa))。

### (f) 聯營公司

聯營公司是指本集團或本公司可以對其管理層發揮重大影響的實體，包括參與其財務及經營決策，但不是控制或聯合控制管理層。

對聯營公司的投資是按權益法計入合併財務報表。根據權益法，投資初始按成本計值，並調整本集團於收購日期佔被投資公司可識別淨資產公允價值超出投資成本的任何差額(如有)。其後，投資就本集團佔被投資公司淨資產及任何有關投資的減值虧損的收購後變動作出調整(見附註2(i)和(n))。任何收購日超出成本的金額、本集團應佔本年度收購後被投資公司稅後業績及減值虧損均於合併損益表中確認，而本集團佔被投資公司於收購日後的其他稅後綜合收益的項目則確認於合併損益及其他綜合收益表。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### (f) Associates (continued)

When the Group's share of losses exceeds its interest in the associate, the Group's interest is reduced to nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the investee. For this purpose, the Group's interest is the carrying amount of the investment under the equity method together with the Group's long-term interests that in substance form part of the Group's net investment in the associate.

Unrealised profits and losses resulting from transactions between the Group and its associates are eliminated to the extent of the Group's interest in the investee, except where unrealised losses provide evidence of an impairment of the asset transferred, in which case they are recognised immediately in profit or loss.

If an investment in an associate becomes an investment in a joint venture or vice versa, retained interest is not remeasured. Instead, the investment continues to be accounted for under the equity method.

In all other cases, when the Group ceases to have significant influence over an associate, it is accounted for as a disposal of the entire interest in that investee, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former investee at the date when significant influence is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (see Note 2(i)).

In the Company's statement of financial position, investments in associates are stated at cost less impairment losses (see Note 2(n)(ii)).

### 2 主要會計政策(續)

#### (f) 聯營公司(續)

當本集團的虧損份額超過其在該聯營公司的權益，本集團的權益會減少至零，並且不再確認額外虧損，本集團已產生法定或推定責任或代表被投資公司付款除外。就此而言，本集團權益是以按照權益法計算投資的賬面值，以及事實上構成本集團在聯營公司投資淨額一部份的長期權益為準。

本集團與其聯營公司間交易產生的未實現損益，均按本集團於被投資公司所佔的權益比率抵銷，但假如未實現虧損提供所轉讓資產出現減值的證據，則該等未實現虧損會立即在損益內確認。

如果對聯營公司的投資變為對合營企業的投資，或者對合營企業的投資變為對聯營公司的投資，則所保留的權益不需重新計量。相反，該投資將繼續按照權益法進行核算。

在其他任何情況下，當本集團不再對聯營公司產生重大影響時，即出售被投資公司的全部權益，由此產生的收益或虧損在損益中確認。在喪失重大影響當日所保留的有關前被投資公司的權益按公允價值確認，該金額為金融資產初始確認的公允價值(見附註2(i))。

本公司財務狀況表所示對聯營公司投資，是按成本減去減值虧損(見附註2(n)(ii))後入賬。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

### (g) Business combinations under common control

Business combinations arising from transfer of interests in entities that are under the control of the equity shareholders that controls the Group are accounted for as if the acquisition had occurred at the beginning of the years or, if later, at the date that common control was established. The assets and liabilities acquired are recognised at the carrying amounts recognised previously in the Group's equity shareholders' consolidated financial statements. Upon transfer of interest in an entity to another entity that are under the control of the equity owner that controls the Group, any difference between the Group's interest in the carrying value of the assets and liabilities and the cost of transfer of interest in the entity is recognised directly in equity.

### (h) Goodwill

Goodwill represents the excess of

- (i) the aggregate of the fair value of the consideration transferred, the amount of any non-controlling interest in the acquiree and the fair value of the Group's previously held equity interest in the acquiree; over
- (ii) the net fair value of the acquiree's identifiable assets and liabilities measured as at the acquisition date.

When (ii) is greater than (i), then this excess is recognised immediately in profit or loss as a gain on a bargain purchase.

Goodwill is stated at cost less accumulated impairment losses. Goodwill arising on a business combination is allocated to each cash-generating unit, or groups of cash generating units, that is expected to benefit from the synergies of the combination and is tested annually for impairment (see Note 2(n)(ii)).

On disposal of a cash generating unit during the year, any attributable amount of purchased goodwill is included in the calculation of the profit or loss on disposal.

### (g) 同一控制下的業務合併

發生在共同受某一權益股東控制下實體之間的業務合併，需假設收購發生在年初，或在共同控制權成立之日的孰晚日期。所取得的資產及負債乃按本集團權益股東的合併財務報表中確認之賬面價值確認。在將一個實體的權益轉移到控制該實體的所有者控制的另一個實體時，該集團對該資產和負債的賬面價值和該實體的權益轉移費用之間的任何差異直接在權益中確認。

### (h) 商譽

商譽指

- (i) 已轉讓代價的公允價值、於被收購公司的任何非控制股東權益的數額，以及本集團之前於被收購公司持有的股權的總額；超過
- (ii) 於收購日期計量的被收購公司的可識別資產及負債的公允價值。

當(ii)較(i)為大時，該超越值實時在損益內確認為議價收購收益。

商譽按成本減累計減值虧損列賬。業務合併產生之商譽分配至預計將會受惠於合併之協同作用之各現金產生單元或現金產生單元組別，並於每年進行減值測試(見附註2(n)(ii))。

在當年內出售現金產生單元，任何可歸屬的購入商譽的金額均應包含在計算出售的損益內。





## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (i) Other investments in debt and equity securities

The Group's and the Company's policies for investments in debt and equity securities, other than investments in subsidiaries and associates, are as follows:

Investments in debt and equity securities are initially stated at fair value, which is their transaction price unless it is determined that the fair value at initial recognition differs from the transaction price and that fair value is evidenced by a quoted price in an active market for an identical asset or liability or based on a valuation technique that uses only data from observable markets. Cost includes attributable transaction costs, except where indicated otherwise below. These investments are subsequently accounted for as follows, depending on their classification:

Investments in securities held for trading are classified as current assets. Any attributable transaction costs are recognised in profit or loss as incurred. At the end of each reporting period the fair value is remeasured, with any resultant gain or loss being recognised in profit or loss. The net gain or loss recognised in profit or loss does not include any dividends or interest earned on these investments as these are recognised in accordance with the policies set out in Note 2(x)(vi).

Investments in securities which do not fall into any of the above categories are classified as available-for-sale securities. At the end of each reporting period the fair value is remeasured, with any resultant gain or loss being recognised in other comprehensive income and accumulated separately in equity in the fair value reserve. As an exception to this, investments in equity securities that do not have a quoted market price in an active market for an identical instrument and whose fair value cannot otherwise be reliably measured are recognised in the statement of financial position at cost less impairment losses (see Note 2(n)(i)). Dividend income from equity securities and interest income from debt securities calculated using the effective interest method are recognised in profit or loss in accordance with the policies set out in Notes 2(x)(vi) and (vii), respectively. Foreign exchange gains and losses resulting from changes in the amortised cost of debt securities are also recognised in profit or loss.

When the investments are derecognised or impaired (see Note 2(n)), the cumulative gain or loss recognised in equity is reclassified to profit or loss. Investments are recognised/derecognised on the date the Group commits to purchase/sell the investments.

#### (i) 其他債券和權益證券投資

本集團及本公司對附屬公司和聯營公司以外的其他權益證券投資的會計政策如下：

債券和權益證券投資初始按公允價值列賬，通常為交易價格，除非使用評估技術測出的公允價值更為可靠(該評估技術所涉及的變量僅包括從可觀察的市場上獲取的數據)。除非下文另有說明，成本包括相關的交易費用。這些投資將按分類列示：

交易性證券投資列入流動資產。任何相關交易費用發生時均列入損益內確認。公允價值於每個報告期末重新計量，由此產生的任何收益或虧損列入損益內。於損益表內確認的收益或虧損不包括此等投資所賺取的任何股息或利息，此等收益需根據載於附註2(x)(vi)的規定確認。

未列入上述任何類別之證券投資應歸類為可供出售證券。公允價值於每個報告期末重新計量，由此產生的任何收益或虧損於其他綜合收益中確認，並單獨累計於權益中的公允價值儲備。無活躍市場報價且其公允價值不能可靠計量的權益證券投資以成本減去減值虧損(見附註2(n)(i))於財務狀況表中確認。根據附註2(x)(vi)和(vii)中規定的政策，利用實際利率法計算的權益證券股息收入和債券利息收入確認為當期損益。因債券攤餘成本變動而產生的外匯損益也確認為當期損益。

當此等投資被終止確認或減值(見附註2(n))時，累計收益或虧損從權益重分類至損益。在本集團承諾購入/出售投資當日，有關投資會被確認/終止確認。



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

### (j) Investment property

Investment properties are land and/or buildings which are owned or held under a leasehold interest (see Note 2(m)) to earn rental income and/or for capital appreciation.

Investment properties are stated at cost less accumulated depreciation and impairment losses (see Note 2(n)(ii)). The depreciation policy is the same as that of property, plant and equipment (see Note 2(k)). Rental income from investment properties is accounted for as described in Note 2(x)(v).

### (k) Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and impairment losses (see Note 2(n)(ii)).

The cost of self-constructed items of property, plant and equipment includes the cost of materials, direct labour, the initial estimate, where relevant, of the costs of dismantling and removing the items and restoring the site on which they are located, and an appropriate proportion of production overheads and borrowing costs (see Note 2(z)).

Gains or losses arising from the retirement or disposal of an item of property, plant and equipment are determined as the difference between the net disposal proceeds and the carrying amount of the item and are recognised in profit or loss on the date of retirement or disposal.

Depreciation is calculated to write off the cost of items of property, plant and equipment, less their estimated residual value, if any, using the straight line method over their estimated useful lives as follows:

- Land, buildings and structures	20 – 50 years
- Machinery and equipment	3 – 20 years
- Motor vehicles	3 – 10 years
- Furniture, fixtures and others	3 – 10 years

Where parts of an item of property, plant and equipment have different useful lives, the cost of the item is allocated on a reasonable basis between the parts and each part is depreciated separately. Both the useful life of an asset and its residual value, if any, are reviewed annually.

### (j) 投資性物業

投資性物業是以賺取租金收入及／或為資本增值而持有或租用(見附註2(m))的土地及樓宇。

投資性物業按成本減累計折舊及減值虧損(見附註2(n)(ii))列賬。折舊政策與物業、廠房及設備(見附註2(k))的折舊政策相同。投資性物業租賃收入按照附註2(x)(v)中所述方法列賬。

### (k) 物業、廠房及設備

物業、廠房及設備按成本減累計折舊及減值虧損(見附註2(n)(ii))列賬。

自建物業、廠房及設備項目成本包括材料成本、直接勞工成本、拆卸及搬遷有關項目的成本與修復項目所在場地的還原修復費用初步估計成本(如有關)以及適當比例的間接生產開支與借貸成本(見附註2(z))。

報廢或出售物業、廠房及設備項目產生的收益或虧損為出售所得款項淨額與項目賬面值的差額，於報廢或出售日期在損益中確認。

折舊是在下列估計可使用期限內按直線法衝銷物業、廠房及設備項目的成本，扣除估計殘值(如有)計算：

- 土地、樓宇及建築物	20 – 50年
- 機器及設備	3 – 20年
- 汽車	3 – 10年
- 家具、裝置和其他	3 – 10年

如果物業、廠房及設備項目各部份的可使用期限不同，則該項目的成本會合理分配至各部份，而每部份須分開折舊。本集團會每年審閱資產的可使用期限及其殘值(如有)。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (I) Intangible assets (other than goodwill)

The Group recognises an intangible asset arising from a service concession arrangement when it has a right to charge for usage of the concession infrastructure. An intangible asset received as consideration for providing construction services in a service concession arrangement are measured at fair value upon initial recognition by reference to the fair value of the services provided. Subsequent to initial recognition the intangible asset is measured at cost less accumulated amortisation and impairment losses (see Note 2(n)(ii)). If the Group is paid for the construction services partly by an intangible asset and partly by a financial asset (see Note 2(q)), then each component of the consideration is accounted for separately and is initially recognised at fair value of the consideration.

Expenditure on research activities is recognised as an expense in the period in which it is incurred. Expenditure on development activities is capitalised if the product or process is technically and commercially feasible and the Group has sufficient resources and the intention to complete development. The expenditure capitalised includes the costs of materials, direct labour, and an appropriate proportion of overheads and borrowing costs, where applicable (see Note 2(z)). Capitalised development costs are stated at cost less accumulated amortisation and impairment losses (see Note 2(n)(ii)). Other development expenditure is recognised as an expense in the period in which it is incurred.

Other intangible assets that are acquired by the Group are stated at cost less accumulated amortisation (where the estimated useful life is finite) and impairment losses (see Note 2(n)(ii)). Expenditure on internally generated goodwill and brands is recognised as an expense in the period in which it is incurred.

Amortisation of intangible assets with finite useful lives is charged to profit or loss on a straight-line basis over the assets' estimated useful lives. The following intangible assets with finite useful lives are amortised from the date they are available for use and their estimated useful lives are as follows:

-	Concession assets	20 – 34 years
-	Technical know-how	5 – 18 years
-	Capitalised development costs	5 – 10 years
-	Software and others	3 – 10 years

#### (I) 無形資產(商譽除外)

如果本集團有權就使用特許權基礎設施收費，本集團會確認服務特許權安排產生的無形資產。作為提供服務特許權安排的代建設服務的代價所收取的無形資產，於初始確認時按公允價值計量。在初始確認後，無形資產按成本減去累計攤銷和減值虧損(見附註2(n)(ii))計量。如果就建造服務支付予本集團的對價部份為無形資產而部份為金融資產(見附註2(q))，對價的各部份則應分別入賬並初始按對價的公允價值計量。

研究活動開支於其產生期間確認為開支。如果產品或程序於技術上可行及可投入商業運作，且本集團具備充裕資源及有意完成開發，則開發活動開支進行資本化。資本化的開支包括材料成本、直接勞工成本，以及在適當比例的間接成本及借貸成本(如適用)(見附註2(z))。資本化之開發成本按照成本減累計攤銷及減值虧損(見附註2(n)(ii))列賬。其他開發支出於其產生期間確認為費用。

本集團收購的其他無形資產以成本減累計攤銷(如果既定的估計可使用期限)和減值虧損(見附註2(n)(ii))列賬。內部產生的商譽和品牌開支在其產生當期以費用形式確認。

有既定可使用期限的無形資產的攤銷是以直線法於資產的估計可使用期限內計入損益。以下有既定可使用期限的無形資產由可供使用當日起，在估計可使用期限內攤銷：

-	特許權資產	20 – 34年
-	專業技術	5 – 18年
-	資本化開發成本	5 – 10年
-	軟件及其他	3 – 10年

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

### (l) Intangible assets (other than goodwill) (continued)

The estimated useful life of a concession asset in a service concession arrangement is the period from when the Group is able to charge for the use of the infrastructure to the end of the concession period.

Both the period and method of amortisation are reviewed annually.

### (m) Leased assets

An arrangement, comprising a transaction or a series of transactions, is or contains a lease if the Group determines that the arrangement conveys a right to use a specific asset or assets for an agreed period of time in return for a payment or a series of payments. Such a determination is made based on an evaluation of the substance of the arrangement and is regardless of whether the arrangement takes the legal form of a lease.

#### (i) Classification of assets leased to the Group

Assets that are held by Group under leases which transfer to the Group substantially all the risks and rewards of ownership are classified as being held under finance leases. Leases which do not transfer substantially all the risks and rewards of ownership to the Group are classified as operating leases except for land held for own use under an operating lease, the fair value of which cannot be measured separately from the fair value of a building situated thereon at the inception of the lease, is accounted for as being held under a finance lease, unless the building is also clearly held under an operating lease. For these purposes, the inception of the lease is the time that the lease was first entered into by the Group, or taken over from the previous lessee.

### (l) 無形資產(商譽除外)(續)

服務特許經營安排中的特許權資產的預計可使用年限於本集團可收取基礎設施使用費開始至特許經營期結束時終止之期間。

攤銷期限及方法均每年進行審閱。

### (m) 租賃資產

如果本集團確定一項安排(由一宗交易或一系列交易組成)會於協議期間內賦予一項特定資產或多項資產的使用權，以換取一項或多項付款，則該安排為或包括一項租賃。該確定乃根據對該安排的實質情況所作評估，而無論該安排是否採取租賃的法律形式。

#### (i) 本集團租用的資產分類

對於本集團以租賃持有的資產，如果租賃使所有權的絕大部份風險及回報轉讓予本集團，該項資產被分類為以融資租賃持有。如租賃不會將所有權的絕大部份風險及回報轉讓予本集團，則該項資產被分類為經營租賃，惟以經營租賃持做自用，但無法在租賃開始時將其公允價值與建於其上的樓宇的公允價值分開計量的土地是按以融資租賃持有方式入賬，但清楚的以經營租賃持有的樓宇除外。就此而言，租賃的開始時間是指本集團首次訂立租賃時，或自前承租人接收時。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (m) Leased assets (continued)

##### (ii) Assets acquired under finance leases

Where the Group acquires the use of assets under finance leases, the amounts representing the fair value of the leased asset, or, if lower, the present value of the minimum lease payments, of such assets are recognised as property, plant and equipment and the corresponding liabilities, net of finance charges, are recorded as obligations under finance leases. Depreciation is provided at rates which write off the cost of the assets over the term of the relevant lease or, where it is likely the Group will obtain ownership of the asset, the life of the asset, as set out in Note 2(k). Impairment losses are accounted for in accordance with the accounting policy as set out in Note 2(n)(ii). Finance charges implicit in the lease payments are charged to profit or loss over the period of the leases so as to produce an approximately constant periodic rate of charge on the remaining balance of the obligations for each accounting period. Contingent rentals are charged to profit or loss in the accounting period in which they are incurred.

##### (iii) Operating lease charges

Where the Group has the use of assets held under operating leases, payments made under the leases are charged to profit or loss in equal instalments over the accounting periods covered by the lease term, except where an alternative basis is more representative of the pattern of benefits to be derived from the leased asset. Lease incentives received are recognised in profit or loss as an integral part of the aggregate net lease payments made. Contingent rentals are charged to profit or loss in the accounting period in which they are incurred.

The cost of acquiring land held under an operating lease is amortised on a straight-line basis over the period of the lease term.

#### (m) 租賃資產(續)

##### (ii) 根據融資租賃獲得的資產

如果本集團根據融資租賃獲得資產的使用權，便會將相當於租賃資產公允價值及最低租賃預付款的現值(兩者中的較低者)確認為物業、廠房及設備，而扣除融資費用後的相應負債則列為融資租賃承擔。折舊是在相關的租賃期或資產的可用期限(如本集團很可能取得資產的所有權)內，以衝銷其成本的比率計提；有關的資產可用期限列載於附註2(k)。減值虧損按照附註2(n)(ii)所載的會計政策入賬。租賃付款內含的融資費用會計入租賃期內的損益中，使各會計期間的融資費用佔承擔餘額的比率大致相同。或有租金於其產生的會計期間在損益中列支。

##### (iii) 經營租賃之費用

如果本集團通過經營租賃持有資產的使用權，會以租賃作出的付款於租期的會計期間內，按等額的攤付金額計入損益，但是，可以更清楚地反映租賃資產所產生的收益模式的基準則除外。所獲租賃獎勵應於損益中確認為租賃淨付款總額的一部份。或有租金將於其產生的會計期間自損益中列支。

根據經營租賃所持土地的收購成本於租賃期內按直線法攤銷。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

### (n) Impairment of assets

#### (i) Impairment of investments in debt and equity securities and other receivables

Investments in debt and equity securities and other current and non-current receivables that are stated at cost or amortised cost or are classified as available-for-sale securities are reviewed at the end of each reporting period to determine whether there is objective evidence of impairment. Objective evidence of impairment includes observable data that comes to the attention of the Group about one or more of the following loss events:

- significant financial difficulty of the debtor;
- a breach of contract, such as a default or delinquency in interest or principal payments;
- it becoming probable that the debtor will enter bankruptcy or other financial reorganisation;
- significant changes in the technological, market, economic or legal environment that have an adverse effect on the debtor; and
- a significant or prolonged decline in the fair value of an investment in an equity instrument below its cost.

If any such evidence exists, any impairment loss is determined and recognised as follows:

- For investments in associates accounted for under the equity method in the consolidated financial statements (see Note 2(f)), the impairment loss is measured by comparing the recoverable amount of the investment with its carrying amount in accordance with Note 2(n)(ii). The impairment loss is reversed if there has been a favourable change in the estimates used to determine the recoverable amount in accordance with Note 2(n)(ii).

### (n) 資產減值

#### (i) 債券、權益證券投資及其他應收款項之減值

按成本、攤餘成本入賬之債券、權益證券投資或分類為可供出售證券、及其他流動及非流動應收款項於每個報告期末審閱，以確定是否有減值的客觀證據。減值之客觀證據包括本集團注意到以下一項或多項虧損事項之顯著數據：

- 債務人有重大財務困難；
- 違反合約，例如拖欠或逾期償還利息或本金款項；
- 債務人可能面臨破產或進行其他財務重組；
- 科技、市場、經濟或法律環境發生重大變動而對債務人產生不利影響；及
- 一項權益工具投資之公允價值大幅度或長期貶值至低於其成本。

如有任何該等證據存在，便會確定減值虧損並按以下方式確認：

- 對於合併財務報表中按權益法核算的對聯營公司的投資(見附註2(f))，減值虧損是根據附註2(n)(ii)以投資可收回金額與其賬面金額之間之差額計量。倘若用以決定可收回金額之估計有利好之變動，則該減值虧損可按附註2(n)(ii)所述撥回。





## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (n) Impairment of assets (continued)

#### (n) 資產減值(續)

##### (i) Impairment of investments in debt and equity securities and other receivables (continued)

##### (i) 債券、權益證券投資及其他應收款項之減值(續)

- For unquoted equity securities carried at cost, the impairment loss is measured as the difference between the carrying amount of the financial asset and the estimated future cash flows, discounted at the current market rate of return for a similar financial asset where the effect of discounting is material. Impairment losses for equity securities carried at cost are not reversed.
- For trade and other current receivables and other financial assets carried at amortised cost, the impairment loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate (i.e. the effective interest rate computed at initial recognition of these assets), where the effect of discounting is material. This assessment is made collectively where these financial assets share similar risk characteristics, such as similar past due status, and have not been individually assessed as impaired. Future cash flows for financial assets which are assessed for impairment collectively are based on historical loss experience for assets with credit risk characteristics similar to the collective group.

If in a subsequent period the amount of an impairment loss decreases and the decrease can be linked objectively to an event occurring after the impairment loss was recognised, the impairment loss is reversed through profit or loss. A reversal of an impairment loss shall not result in the asset's carrying amount exceeding that which would have been determined had no impairment loss been recognised in prior years.

- 就按成本列賬之非上市權益證券而言，減值虧損乃按金融資產之賬面值與類似金融資產當時市場回報率折現計算(倘若折現產生重大影響)的預計未來現金流量之間的差額計量。按成本列賬之權益證券減值虧損將不會撥回。
- 對於按攤餘成本列賬之應收賬款及其他流動應收款項及其他金融資產，減值虧損按該項資產賬面值與有關金融資產之原定的實際利率(即按最初確認該等資產計算出之實際利率)進行折現(倘折現影響屬重大)的預計未來現金流量的現值之間的差額計量。若金融資產擁有類似風險性質(如相近的過期未付情況)且沒有被個別評估為已減值，則按整體評估。金融資產的未來現金流量乃根據與被評估資產具有類似信用風險特徵資產的過往虧損經驗進行整體減值評估。

倘若減值虧損數額在其後的期間減少，而且客觀上與減值虧損確認後發生之事件有關，則應通過損益撥回減值虧損。減值虧損之撥回不應使資產之賬面金額超過其在以往年度沒有確認任何減值虧損而已應確定之數額。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

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### 2 SIGNIFICANT ACCOUNTING POLICIES 2 主要會計政策(續) (CONTINUED)

#### (n) Impairment of assets (continued)

##### (i) *Impairment of investments in debt and equity securities and other receivables (continued)*

- For available-for-sale securities, the cumulative loss that has been recognised in the fair value reserve is reclassified to profit or loss. The amount of the cumulative loss that is recognised in profit or loss is the difference between the acquisition cost and current fair value, less any impairment loss on that asset previously recognised in profit or loss.

Impairment losses recognised in profit or loss in respect of available-for-sale equity securities are not reversed through profit or loss. Any subsequent increase in the fair value of such assets is recognised in other comprehensive income.

Impairment losses in respect of available-for-sale debt securities are reversed if the subsequent increase in fair value can be objectively related to an event occurring after the impairment loss was recognised. Reversals of impairment losses in such circumstances are recognised in profit or loss.

#### (n) 資產減值(續)

##### (i) 債券、權益證券投資及其他應收款項之減值(續)

- 對於可供出售權益證券，已直接計入權益中的因公允價值下降形成的累計損失，應予以轉出，計入當期損益。已於損益內確認的累計虧損金額為收購成本與當前公允價值之差額，減去該資產於損益中確認之前的減值虧損。

於損益中確認的可供出售權益證券的減值虧損不得通過損益撥回。其後任何此等資產的公允價值增加於其他綜合收益中確認。

如果後續的公允價值增加客觀上與確認減值損失後發生的事項有關，則可供出售債券的減值損失予以轉回。在此條件下轉回的減值損失確認為當期損益。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (n) Impairment of assets (continued)

#### (n) 資產減值(續)

##### (i) *Impairment of investments in debt and equity securities and other receivables (continued)*

##### (i) *債券、權益證券投資及其他應收款項之減值(續)*

Impairment losses are written off against the corresponding assets directly, except for impairment losses recognised in respect of trade and bills receivables and other receivables, whose recovery is considered doubtful but not remote. In this case, the impairment losses for doubtful debts are recorded using an allowance account. When the Group is satisfied that recovery is remote, the amount considered irrecoverable is written off against the respective receivables directly and any amounts held in the allowance account relating to that debt are reversed. Subsequent recoveries of amounts previously charged to the allowance account are reversed against the allowance account. Other changes in the allowance account and subsequent recoveries of amounts previously written off directly are recognised in profit or loss.

減值虧損直接衝銷相關資產，惟就應收賬款及票據及其他應收款項中確認的減值虧損除外，原因是該等應收款項可收回機會是被懷疑而非可能性極低。在此情況下，呆壞賬的減值虧損則於撥備賬計提。如本集團認為收回機會渺茫，被視為不會收回的金額直接衝銷各自應收款項，而在撥備賬的有關數額則須撥回。如已計提在撥備賬中的金額已被收回，其將從撥備賬中撥回。其他在撥備賬內的變動及以往已直接撇銷而其後收回的數額則在損益中確認。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (n) Impairment of assets (continued)

##### (ii) Impairment of other assets

Internal and external sources of information are reviewed at the end of each reporting period to identify indications that the following assets may be impaired or, except in the case of goodwill, an impairment loss previously recognised no longer exists or may have decreased:

- property, plant and equipment;
- investment properties;
- lease prepayments;
- intangible assets
- goodwill; and
- investment in subsidiaries and associates in the Company's statement of financial position.

If any such indication exists, the asset's recoverable amount is estimated. In addition, for goodwill and intangible assets that are not yet available for use, the recoverable amount is estimated annually whether or not there is any indication of impairment.

- Calculation of recoverable amount

The recoverable amount of an asset is the greater of its 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. Where an asset does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the smallest group of assets that generates cash inflows independently (i.e. a cash-generating unit).

#### (n) 資產減值(續)

##### (ii) 其他資產減值

在每個報告期末審閱內部和外來的數據，以確定下列資產有否出現減值跡象，或是以往確認的減值虧損不復存在或已經減少(商譽除外)：

- 物業、廠房及設備；
- 投資性物業；
- 預付土地租賃款；
- 無形資產；
- 商譽；及
- 於本公司財務狀況表中對附屬公司和聯營公司的投資。

倘出現任何有關跡象，則會估計該資產的可收回金額。此外，就商譽和無形資產而言，無論是否出現減值的跡象，須每年估計可收回金額。

- 計算可收回金額

資產的可收回金額是其公允價值減去出售成本後的數值與使用價值兩者中較高者。在評估使用價值時，預計未來現金流量會按照能反映當時市場對貨幣時間價值和資產特定風險的評估的稅前折現率，折現至其現值。如果資產所產生的現金流入基本上並非獨立於其他資產所產生的現金流入，則以能產生獨立現金流入的最小資產類別(即現金產生單元)來確定可收回金額。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (n) Impairment of assets (continued)

##### (ii) Impairment of other assets (continued)

– Recognition of impairment losses

An impairment loss is recognised in profit or loss if the carrying amount of an asset, or the cash-generating unit to which it belongs, exceeds its recoverable amount. Impairment losses recognised in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to the cash-generating unit (or group of units) and then, to reduce the carrying amount of the other assets in the unit (or group of units) on a pro rata basis, except that the carrying value of an asset will not be reduced below its individual fair value less costs of disposal (if measurable), or value in use (if determinable).

– Reversals of impairment losses

In respect of assets other than goodwill, an impairment loss is reversed if there has been a favourable change in the estimates used to determine the recoverable amount. An impairment loss in respect of goodwill is not reversed.

A reversal of an impairment loss is limited to the asset's carrying amount that would have been determined had no impairment loss been recognised in prior years. Reversals of impairment losses are credited to profit or loss in the year in which the reversals are recognised.

##### (iii) Interim financial reporting and impairment

Under the Rules Governing the Listing of Securities on the Stock Exchange, the Group is required to prepare an interim financial report in compliance with IAS 34, *Interim financial reporting*, in respect of the first six months of the financial year. At the end of the interim period, the Group applies the same impairment testing, recognition, and reversal criteria as it would at the end of the financial year (see Notes 2(n)(i) and (ii)).

#### (n) 資產減值(續)

##### (ii) 其他資產減值(續)

– 確認減值虧損

倘資產或其所屬現金產生單元的賬面值超過其可收回金額，則減值虧損於損益確認。在分配現金產生單元確認的減值虧損時，首先減少已分配至該現金產生單元(或該組單元)的商譽之賬面金額，然後按比例減少該單元(或該組單元)內資產的賬面金額；但資產的賬面值不得減少至低於其個別公允價值減去出售成本(如可衡量)後所得的金額或其使用價值(如能確定)。

– 減值虧損撥回

就商譽以外之資產而言，倘用以確定可收回金額的估計出現有利轉變，則減值虧損會被撥回。商譽減值虧損概不撥回。

減值虧損的撥回僅限於資產在以往年度內並無確認任何減值虧損的情況下的原應確定的賬面值。減值虧損的撥回在確認撥回的年度內計入損益。

##### (iii) 中期財務報告及減值

根據《香港聯合交易所有限公司證券上市規則》，本集團須根據《國際會計準則》第34號—「*中期財務報告*」就財政年度首六個月編製中期財務報告。於中期期末，本集團應用的減值測試、確認及撥回標準與其於財政年度末所應用者相同(見附註2(n)(i)及(ii))。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (n) Impairment of assets (continued)

##### (iii) Interim financial reporting and impairment (continued)

Impairment losses recognised in an interim period in respect of goodwill, available-for-sale equity securities and unquoted equity securities carried at cost are not reversed in a subsequent period. This is the case even if no loss, or a smaller loss, would have been recognised had the impairment been assessed only at the end of the financial year to which the interim period relates. Consequently, if the fair value of an available-for-sale equity security increases in the remainder of the annual period, or in any other period subsequently, the increase is recognised in other comprehensive income and not profit or loss.

#### (o) Inventories

Inventories are carried at the lower of cost and net realisable value.

Cost is calculated using the weighted average cost formula and comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

When inventories are sold, the carrying amount of those inventories is recognised as an expense in the period in which the related revenue is recognised. The amount of any write-down of inventories to net realisable value and all losses of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories is recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.

#### (n) 資產減值(續)

##### (iii) 中期財務報告及減值(續)

於中期期間就商譽、可供出售權益證券及按成本入賬的非上市權益證券確認的減值虧損並不會於往後期間撥回。即使在倘若減值評估僅於與中期期間相關財政年度結束時進行則將無需確認虧損或確認較少虧損的情況下亦然。因此，倘可供出售權益證券之公允價值於年度期間之剩餘期間或於其後之任何其他期間有所增加，有關增加則將於其他綜合收益而非損益中確認。

#### (o) 存貨

存貨乃以成本與可變現淨值之的較低者列賬。

成本採用加權平均成本公式計算，並包括所有採購成本、加工成本及將存貨運至目前地點及達成現狀產生之其他成本。

可變現淨值乃以日常業務過程中的估計售價減估計完工成本及估計進行銷售所需的成本後所得數額。

存貨售出時，該等存貨之賬面金額於相關收入獲確認期間內確認為開支。任何由存貨撇減至可變現淨值之金額及所有存貨虧損，於撇減或虧損出現期間確認為開支。存貨撇減的任何撥回金額，於撥回期間作為存貨所確認的開支的扣減。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### (p) Construction contracts

Construction contracts are contracts specifically negotiated with a customer for the construction of an asset or a group of assets, where the customer is able to specify the major structural elements of the design. The accounting policy for contract revenue is set out in Note 2(x)(ii). When the outcome of a construction contract can be estimated reliably, contract costs are recognised as an expense by reference to the stage of completion of the contract at the end of the reporting period. When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognised as an expense immediately. When the outcome of a construction contract cannot be estimated reliably, contract costs are recognised as an expense in the period in which they are incurred.

Construction contracts in progress at the end of the reporting period are recorded at the net amount of costs incurred plus recognised profit less recognised losses and progress billings, and are presented in the statement of financial position as the “Gross amounts due from customers for contract work” (as an asset) or the “Gross amounts due to customers for contract work” (as a liability), as applicable. Progress billings not yet paid by the customer are included under “Trade and bills receivables”. Amounts received before the related work is performed are presented as “Receipts in advance” under “Other payables”.

#### (q) Trade and other receivables

Trade and other receivables are initially recognised at fair value and thereafter stated at amortised cost using the effective interest method, less allowance for impairment of doubtful debts (see Note 2(n)(i)), except where the receivables are interest-free loans made to related parties without any fixed repayment terms or the effect of discounting would be immaterial. In such cases, the receivables are stated at cost less allowance for impairment of doubtful debts.

The Group recognises a financial asset arising from a service concession arrangement when it has an unconditional contractual right to receive cash or another financial asset from or at the direction of the grantor for the construction services provided. Such financial assets are accounted for as trade and other receivables as described above.

### 2 主要會計政策(續)

#### (p) 建造合同

建造合同乃就建造一項或一組資產而與客戶具體商議的合約，客戶可指定設計的主要構造元素。建造合同收入之會計政策載於附註2(x)(ii)。倘能可靠估計建造合同的結果，則合同成本於報告期末按合同完工進度確認為開支。如總合同成本很可能超出總合同收入，則預期虧損立即確認為開支。倘無法可靠估計建造合同的結果，則合同成本於產生期間確認為開支。

於報告期末的建造合同按所產生成本淨額加已確認利潤再減已確認虧損及進度款項於財務狀況表，並呈列為「應收建造合同客戶款項總額」(作為資產)或「應付建造合同客戶款項總額」(作為負債)(視情況而定)。客戶尚未支付的進度款項計入「應收賬款及票據」。於進行有關工程前收取的款項於「其他應付款項」下呈列為「預收款項」。

#### (q) 應收賬款及其他應收款項

應收賬款及其他應收款項初始按公允價值確認，其後使用實際利率法按攤餘成本減呆壞賬減值準備(見附註2(n)(i))列賬，惟倘應收款項乃向關聯方所提供並無固定還款期的免息貸款或貼現影響並不重大則除外。於該等情況，應收款項乃按成本減呆壞賬減值準備列賬。

本集團根據服務特許權協議因其所提供的建造服務可無條件按授權方的指示收取現金或其他金融資產的，本集團則確認一項服務特許權協議所產生的金融資產。這些金融資產按上述的應收賬款及其他應收款項入賬。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (r) Interest-bearing borrowings

Interest-bearing borrowings are recognised initially at fair value less attributable transaction costs. Subsequent to initial recognition, interest-bearing borrowings are stated at amortised cost with any difference between the amount initially recognised and redemption value being recognised in profit or loss over the period of the borrowings, together with any interest and fees payable, using the effective interest method.

#### (s) Trade and other payables

Trade and other payables are initially recognised at fair value. Except for financial guarantee liabilities measured in accordance with Note 2(w)(i), trade and other payables are subsequently stated at amortised cost unless the effect of discounting would be immaterial, in which case they are stated at cost.

#### (t) Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand, demand deposits with banks and other financial institutions, and short-term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value, having been within three months of maturity at acquisition.

#### (u) Employee benefits

##### (i) Short-term employee benefits and contributions to defined contribution retirement plans

Salaries, annual bonuses, contributions to defined contribution retirement plans and the cost of non-monetary benefits are accrued in the year in which the associated services are rendered by employees. Where payment or settlement is deferred and the effect would be material, these amounts are stated at their present values.

##### (ii) Termination benefits

Termination benefits are recognised at the earlier of when the Group can no longer withdraw the offer of those benefits and when it recognises restructuring costs involving the payment of termination benefits.

#### (r) 帶息借貸

帶息借貸乃初始按公允價值減相關交易成本確認。於初始確認後，帶息借貸乃按攤餘成本列賬，而初始確認之金額與贖回價值兩者間之任何差額(連同任何應付利息及費用)使用實際利息法按借貸之期間於損益內確認。

#### (s) 應付賬款及其他應付款

應付賬款及其他應付款項乃初始按公允價值確認。除根據附註2(w)(i)計量之財務擔保負債外，應付賬款及其他應付款項其後按攤餘成本列賬，惟貼現之影響輕微時則除外，於此情況乃按成本列賬。

#### (t) 現金及現金等價物

現金及現金等價物包括現金及銀行存款、存放在銀行及其他金融機構活期存款，以及隨時兌換為已知金額之現金，價值變動風險較小及在購入後三個月內到期的短期和高流動性的投資。

#### (u) 僱員福利

##### (i) 短期僱員福利及界定供款退休計劃供款

薪金、年度花紅、界定供款退休計劃作出供款及非貨幣性福利之成本乃於僱員提供有關服務年度內計提。倘延遲付款或結算而且其影響重大，則該等金額按現值列賬。

##### (ii) 辭退福利

辭退福利只會在本集團根據正式、具體，且不大可能撤回的計劃終止僱員合約或因僱員自願遣散而終止合約而做出補償時確認。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### (v) Income tax

Income tax for the year comprises current tax and movements in deferred tax assets and liabilities. Current tax and movements in deferred tax assets and liabilities are recognised in profit or loss except to the extent that they relate to items recognised in other comprehensive income or directly in equity, in which case the relevant amounts of tax are recognised in other comprehensive income or directly in equity, respectively.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the end of the reporting period, and any adjustment to tax payable in respect of previous years.

Deferred tax assets and liabilities arise from deductible and taxable temporary differences respectively, being the differences between the carrying amounts of assets and liabilities for financial reporting purposes and their tax bases. Deferred tax assets also arise from unused tax losses and unused tax credits.

Apart from certain limited exceptions, all deferred tax liabilities, and all deferred tax assets to the extent that it is probable that future taxable profits will be available against which the asset can be utilised, are recognised. Future taxable profits that may support the recognition of deferred tax assets arising from deductible temporary differences include those that will arise from the reversal of existing taxable temporary differences, provided those differences relate to the same taxation authority and the same taxable entity, and are expected to reverse either in the same period as the expected reversal of the deductible temporary difference or in periods into which a tax loss arising from the deferred tax asset can be carried back or forward. The same criteria are adopted when determining whether existing taxable temporary differences support the recognition of deferred tax assets arising from unused tax losses and credits, that is, those differences are taken into account if they relate to the same taxation authority and the same taxable entity, and are expected to reverse in a period, or periods, in which the tax loss or credit can be utilised.

### 2 主要會計政策(續)

#### (v) 所得稅

本年度之所得稅包括即期稅項，以及遞延稅項資產及負債之變動。即期稅項及遞延稅項資產及負債之變動於損益中確認，惟倘涉及業務合併，或於其他綜合收益或直接於權益確認之項目除外，在此情況下，相關稅項金額分別於其他綜合收益或直接於權益確認。

當期稅項是根據年內應稅所得額，按報告期末已執行或實際已執行之稅率計算之預期應付稅項，以及過往年度的應付稅項的任何調整。

遞延所得稅資產與負債分別由可抵扣和應納稅暫時性差異產生。暫時性差異是指資產和負債在財務報表上的賬面金額與該等資產和負債的計稅基礎之間的差異。遞延稅項資產也可以由未使用稅項虧損和未使用稅項抵免產生。

除若干有限之例外情況外，所有遞延稅項負債及所有遞延稅項資產(惟以有可能用以抵扣未來很可能取得之應課稅利潤的部份為限)均予以確認。可支持確認可抵扣暫時性差異所產生遞延稅項資產的未來應課稅利潤包括轉回現有應納稅暫時性差異所產生的金額。為該等差異必須與同一稅務機關及同一課稅實體有關，並預期在預計轉回可抵扣暫時性差異之同一期間或遞延稅項資產所產生稅務虧損可予撥回或結轉之期間內轉回。在決定現有應納稅暫時性差異是否足以支持確認由未使用稅項虧損及稅項抵免所產生遞延稅項資產時，亦會採用同一準則，即須計及與同一稅務機關及同一應課稅實體有關，並預期在能夠運用稅項虧損或稅項抵免之間內轉回之該等差異。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (v) Income tax (continued)

The limited exceptions to recognition of deferred tax assets and liabilities are those temporary differences arising from goodwill not deductible for tax purposes, the initial recognition of assets or liabilities that affect neither accounting nor taxable profit (provided they are not part of a business combination), and temporary differences relating to investments in subsidiaries to the extent that, in the case of taxable differences, the Group controls the timing of the reversal and it is probable that the differences will not reverse in the foreseeable future, or in the case of deductible differences, unless it is probable that they will reverse in the future.

The amount of deferred tax recognised is measured based on the expected manner of realisation or settlement of the carrying amount of the assets and liabilities, using tax rates enacted or substantively enacted at the end of the reporting period. Deferred tax assets and liabilities are not discounted.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and is reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow the related tax benefit to be utilised. Any such reduction is reversed to the extent that it becomes probable that sufficient taxable profits will be available.

Current tax balances and deferred tax balances, and movements therein, are presented separately from each other and are not offset. Current tax assets are offset against current tax liabilities, and deferred tax assets against deferred tax liabilities, if the Company or the Group has the legally enforceable right to set off current tax assets against current tax liabilities and the following additional conditions are met:

- in the case of current tax assets and liabilities, the Company or the Group intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously; or
- in the case of deferred tax assets and liabilities, if they relate to income taxes levied by the same taxation authority on either:
  - the same taxable entity; or

#### (v) 所得稅(續)

確認遞延稅項資產及負債之有限例外情況包括來自不可在稅務方面獲得扣減的商譽、不影響會計或應課稅利潤(如屬業務合併的一部份則除外)的資產或負債之初始確認，以及與對附屬公司投資有關之暫時性差異，如為應納稅差異，只限於本集團可以控制轉回時間而不大可能在可預見將來轉回之差異；或如屬可抵扣差異，則只限於可在將來轉回的差異。

已確認遞延稅額是按照資產與負債賬面金額的預期實現或結算方式，根據已執行或在報告期末實質上已執行的稅率計量。遞延稅項資產與負債均不折現計算。

遞延稅項資產之賬面值會於每個報告期末予以審閱，並減少不再可能有足夠之應課稅利潤以抵扣相關可使用的稅項利益之部份。如日後有可能有足夠之應課稅利潤，該減少金額將被撥回。

即期稅項結餘及遞延稅項結餘以及當中之變動乃各自分開呈列及不予抵銷。倘本公司或本集團擁有以即期稅項資產抵銷即期稅項負債之法律上可執行之權利，以及符合以下之額外條件時，即期稅項資產才會與即期稅項負債抵銷，而遞延稅項資產則與遞延稅項負債抵銷：

- 就即期稅項資產及負債而言，本公司或本集團計劃以淨額方式結算，或同時變現資產及償還負債；或
- 就遞延稅項資產及負債而言，如該資產及負債涉及之所得稅乃由同一個稅務機關向以下各方徵收：
  - 同一應課稅實體；或



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (v) Income tax (continued)

- different taxable entities, which, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered, intend to realise the current tax assets and settle the current tax liabilities on a net basis or realise and settle simultaneously.

#### (w) Financial guarantees issued, provisions and contingent liabilities

##### (i) Financial guarantees issued

Financial guarantees are contracts that require the issuer (i.e. the guarantor) to make specified payments to reimburse the beneficiary of the guarantee (the "holder") for a loss the holder incurs because a specified debtor fails to make payment when due in accordance with the terms of a debt instrument.

Where the Group issues a financial guarantee, the fair value of the guarantee is initially recognised as deferred income within trade and other payables. The fair value of financial guarantees issued at the time of issuance is determined by reference to fees charged in an arm's length transaction for similar services, when such information is obtainable, or is otherwise estimated by reference to interest rate differentials, by comparing the actual rates charged by lenders when the guarantee is made available with the estimated rates that lenders would have charged, had the guarantees not been available, where reliable estimates of such information can be made. Where consideration is received or receivable for the issuance of the guarantee, the consideration is recognised in accordance with the Group's policies applicable to that category of asset. Where no such consideration is received or receivable, an immediate expense is recognised in profit or loss on initial recognition of any deferred income.

#### (v) 所得稅(續)

- 不同應課稅實體。該等實體計劃在日後每個預期有大額遞延稅項負債需要清算或大額遞延稅項資產可以收回的期間內，按淨額為基礎實現當期稅項資產和清算當期稅項負債，或同時變現該資產和清算該負債。

#### (w) 已作出的財務擔保、撥備及或有負債

##### (i) 已作出的財務擔保

財務擔保合同規定發行人(即擔保人)支付指定款項，以補償該擔保的受益人(「持有人」)因某一特定債務人未能根據債務工具的條款償付到期債務而產生的損失。

如當本集團作出財務擔保，該擔保的公允價值初始確認為應付賬款和其他應付款項下的遞延收益。在相同服務的公平交易信息可取得的情形下，在提供財務擔保時的財務擔保公允價值需參照公平交易條件下提供相同服務時收取的費用進行確定；或如果未曾提供擔保但可取得相同服務情形下的可信賴預估信息，則可通過將貸款人在提供擔保時收取的實際費用與貸款人應當收取的費用進行比較，參照利率差額預估財務擔保公允價值。如果在作出擔保時已收取或可收取對價，該對價會根據本集團適用於該類資產的政策而予以確認。如果並無收取或不會收取有關對價，則於初始確認任何遞延收益時，立即於損益內確認為開支。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (w) Financial guarantees issued, provisions and contingent liabilities (continued)

##### (i) Financial guarantees issued (continued)

The amount of the guarantee initially recognised as deferred income is amortised in profit or loss over the term of the guarantee as income from financial guarantees issued. In addition, provisions are recognised in accordance with Note 2(w)(ii) if and when (i) it becomes probable that the holder of the guarantee will call upon the Group under the guarantee, and (ii) the amount of that claim on the Group is expected to exceed the amount currently carried in trade and other payables in respect of that guarantee i.e. the amount initially recognised, less accumulated amortisation.

##### (ii) Other provisions and contingent liabilities

Provisions are recognised for other liabilities of uncertain timing or amount when the Group or the Company has a legal or constructive obligation arising as a result of a past event, it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made. Where the time value of money is material, provisions are stated at the present value of the expenditure expected to settle the obligation.

Where it is not probable that an outflow of economic benefits will be required, or the amount cannot be estimated reliably, the obligation is disclosed as a contingent liability, unless the probability of outflow of economic benefits is remote. Possible obligations, whose existence will only be confirmed by the occurrence or non-occurrence of one or more future events are also disclosed as contingent liabilities unless the probability of outflow of economic benefits is remote.

#### (w) 已作出的財務擔保、撥備及或有負債(續)

##### (i) 已作出的財務擔保(續)

初始確認為遞延收益的擔保款額於擔保期內在損益內攤銷為已作出財務擔保收入。此外，如果(i)擔保持有人有可能根據擔保向本集團提出申請；及(ii)向本集團索償的金額預期超過現時於有關擔保的應付賬款和其他應付款金額(即初始確認金額減累計攤銷)，則根據附註2(w)(ii)確認撥備。

##### (ii) 其他撥備與或有負債

如果本集團或本公司須就已發生事件承擔法律或推定責任，而履行該責任會導致經濟利益外流，並可作出可靠估計，便會就時間或數額仍不明朗之其他負債確認撥備。如果貨幣時間價值重大，則按預計履行責任所需開支之現值計提撥備。

倘若致使經濟利益外流之機會不大，或無法對有關款項作出可靠估計，便會將該責任披露為或有負債，惟經濟利益外流之機會極低則除外。如果本集團的義務僅視乎一宗或多宗未來事件是否發生才能確定存在，該義務亦會披露為或有負債，惟經濟利益外流之機會極低則除外。





## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (x) Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable. Revenue is presented net of value-added tax (“VAT”), returns, rebates and discounts, if any. Provided it is probable that the economic benefits will flow to the Group and the revenue and costs, if applicable, can be measured reliably, revenue is recognised in profit or loss as follows:

##### (i) Sale of goods

Revenue is recognised when goods are delivered at the customers' premises which is taken to be the point in time when the customer has accepted the goods and the related risks and rewards of ownership.

##### (ii) Contract revenue

When the outcome of a construction contract can be estimated reliably, revenue from a fixed price contract is recognised using the percentage of completion method, measured by reference to the percentage of contract costs incurred to date to estimated total contract costs for the contract.

When the outcome of a construction contract cannot be estimated reliably, revenue is recognised only to the extent of contract costs incurred that it is probable will be recoverable.

##### (iii) Service concession revenue

Revenue related to construction services under a service concession arrangement is recognised based on the stage of completion of the work performed consistent with the Group's accounting policy on recognising revenue on construction contracts (see Note 2(x)(ii)). Operation or service revenue is recognised in the period in which the services are provided by the Group. Interest income on financial assets is recognised in accordance with Note 2(x)(vii). When the Group provides more than one service in a service concession arrangement, the consideration received is allocated by reference to the relative fair value of the services delivered when the amounts are separately identifiable.

#### (x) 收入確認

收入按已收或應收代價之公允價值計量。收入應扣除增值稅、退稅、回扣和折扣(如有)。倘經濟利益可能會流入本集團，以及能夠可靠地計算收入及成本(如適用)時，則收入根據下列方法在損益內確認。

##### (i) 銷售商品

商品銷售收入是在商品已付運至客戶經營場所即客戶已接收商品及所有權有關的風險和回報時確認。

##### (ii) 建造合同收入

如果建造合同之結果可以可靠地估計，固定造價合同之收入會使用完工百分比方法確認，參考截至計算日為止已發生之合同成本佔估計合同成本總額百分比而計算。

如果建造合同之結果不能可靠的估計，則僅以已產生合同成本可收回的部份確認收入。

##### (iii) 服務特許權收入

服務特許權協議項下的與施工相關的收入，按照本集團確認建造合同收入所一致的會計政策(見附註2(x)(ii))按工程完工進度確認。營運或服務收入在本集團提供服務的期間內確認。金融資產的利息收入按照附註2(x)(vii)的規定確認。當本集團在服務特許權協議提供的服務多於一項，且服務確認收入的公允價值能分別確定時，則參照所提供服務的相對公允價值對收取的對價進行分配。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (x) Revenue recognition (continued)

##### (iv) Rendering of services

Revenue from design and consultant services rendered is recognised in the consolidated income statement in proportion to the stage of completion of the transaction at the end of the reporting period. Revenue from other services rendered is recognised upon the delivery or performance of the services.

##### (v) Rental income from operating leases

Rental income receivable under operating leases is recognised in profit or loss in equal instalments over the periods covered by the lease term, except where an alternative basis is more representative of the pattern of benefits to be derived from the use of the leased asset. Lease incentives granted are recognised in profit or loss as an integral part of the aggregate net lease payments receivable. Contingent rentals are recognised as income in the accounting period in which they are earned.

##### (vi) Dividends

- Dividend income from unlisted investments is recognised when the shareholder's right to receive payment is established.
- Dividend income from listed investments is recognised when the share price of the investment goes ex-dividend.

##### (vii) Interest income

Interest income is recognised as it accrues using the effective interest method.

#### (x) 收入確認(續)

##### (iv) 提供服務

所提供的設計和諮詢服務收入按交易於報告期末的完成進度於合併損益表內確認。所提供的其他服務的收入於服務提供後確認。

##### (v) 經營租賃的租金收入

除非有更代表使用租賃資產所產生的收益模式的其他基準之外，經營租賃之租金收入按該租期所涵蓋的年期以等額分期在損益中確認。所給予的租賃獎勵作為租賃淨付款應收額的組成部份在損益中確認。或有租金在該收入產生的會計期間確認收入。

##### (vi) 股息

- 非上市權益投資的股息收入在股東收取款項的權利確立時確認。
- 上市股權投資的股息收入在投資項目的股價除息時確認。

##### (vii) 利息收入

利息收入按實際利率法於其產生時確認。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (x) Revenue recognition (continued)

#### (x) 收入確認(續)

##### (viii) Government grants

##### (viii) 政府補助

Government grants are recognised in the statement of financial position initially when there is reasonable assurance that they will be received and that the Group will comply with the conditions attaching to them. Grants that compensate the Group for expenses incurred are recognised as income in profit or loss on a systematic basis in the same periods in which the expenses are incurred. Grants that compensate the Group for the cost of an asset are initially recognised as deferred income and are subsequently recognised in profit or loss over the useful life of the asset.

當本集團可以合理確認將會收到政府補助並符合相關附帶條件時，政府補助初始會在財務狀況表內確認。用作補償本集團開支的補助於開支產生的同一期間以有系統的基準在損益內確認為收入。用作補償本集團資產成本的補助，初始確認為遞延收益，其後按資產的可使用期限在損益內確認。

#### (y) Translation of foreign currencies

#### (y) 外幣換算

Foreign currency transactions during the year are translated at the foreign exchange rates ruling at the transaction dates. Monetary assets and liabilities denominated in foreign currencies are translated at the foreign exchange rates ruling at the end of the reporting period. Exchange gains and losses are recognised in profit or loss.

年內的外幣交易按交易日的幣匯率換算。以外幣計價的貨幣資產與負債則按報告期末的幣匯率換算。匯兌損益在損益內確認。

Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the foreign exchange rates ruling at the transaction dates.

以外幣計值並按歷史成本計量的非貨幣資產及負債以交易日期的匯率換算。

The results of operations which have a functional currency other than RMB are translated into RMB at the exchange rates approximating the foreign exchange rates ruling at the dates of the transactions. Statement of financial position items are translated into RMB at the closing foreign exchange rates ruling at the end of the reporting period. The resulting exchange differences are recognised in other comprehensive income and accumulated separately in equity in the exchange reserve.

以人民幣以外貨幣為功能貨幣的業務業績乃按與於交易日適用的幣匯率相近的匯率換算成人民幣。財務狀況表項目乃按於報告期末的收市幣匯率換算為人民幣。所產生的匯兌差額乃於其他綜合收益內確認，並單獨累計在權益的匯兌儲備內。

On disposal of a foreign operation, the cumulative amount of the exchange differences relating to the foreign operation is reclassified from equity to profit or loss when the profit or loss on disposal is recognised.

在處置海外業務時，與該海外經營有關的匯兌差異累計金額在確認處置損益時，將從權益被重分類至當期損益。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

### (z) Borrowing costs

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

The capitalisation of borrowing costs as part of the cost of a qualifying asset commences when expenditure for the asset is being incurred, borrowing costs are being incurred and activities that are necessary to prepare the asset for its intended use or sale are in progress. Capitalisation of borrowing costs is suspended or ceases when substantially all the activities necessary to prepare the qualifying asset for its intended use or sale are interrupted or complete.

### (aa) Non-current assets held for sale and discontinued operations

#### (i) Non-current assets held for sale

A non-current asset (or disposal group) is classified as held for sale if it is highly probable that its carrying amount will be recovered through a sale transaction rather than through continuing use and the asset (or disposal group) is available for sale in its present condition. A disposal group is a group of assets to be disposed of together as a group in a single transaction, and liabilities directly associated with those assets that will be transferred in the transaction.

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

### (z) 借貸成本

與購置、建造或生產需要長時間才可以達到擬定可使用或可出售狀態的資產直接相關的借款費用資本化，作為資產的部份成本。其他借款費用於產生期間列為開支。

借款費用應在資產開支和借款費用產生時，並且在資產達到擬定可使用或可出售狀態所必須的準備工作進行期間開始予以資本化，以作為合格資產的成本的一部份，在使合格資產達到擬定可使用或可出售狀態所必須的幾乎全部準備工作中斷或完成時，即暫時中止或停止將借款費用資本化。

### (aa) 持有待售的非流動資產及已終止經營業務

#### (i) 持有待售的非流動資產

如果非流動資產(或處置組)的賬面金額很可能通過銷售交易而非通過持續使用而收回，而該非流動資產(或處置組)可按現況出售，則分類為持有待售用途。處置組是指於單一交易中一併出售的一組資產及與該等於交易中轉移的資產直接相關的負債。

當本集團承諾進行涉及喪失一家附屬公司控制權的出售計劃時，不論本集團是否將於出售後保留該附屬公司的非控股權益，該附屬公司的所有資產及負債於符合上述有關劃歸為持有待售的條件時會劃歸為持有待售用途。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (aa) Non-current assets held for sale and discontinued operations (continued)

#### (aa) 持有待售的非流動資產及已終止經營業務(續)

##### (i) Non-current assets held for sale (continued)

##### (i) 持有待售的非流動資產(續)

Immediately before classification as held for sale, the measurement of the non-current assets (and all individual assets and liabilities in a disposal group) is brought up-to-date in accordance with the accounting policies before the classification. Then, on initial classification as held for sale and until disposal, the non-current assets (except for certain assets as explained below), or disposal groups, are recognised at the lower of their carrying amount and fair value less costs to sell. The principal exceptions to this measurement policy so far as the financial statements of the Group are concerned are deferred tax assets, assets arising from employee benefits, financial assets (other than investments in subsidiaries, associates and joint ventures). These assets, even if held for sale, would continue to be measured in accordance with the policies set out elsewhere in Note 2.

在分類為持有待售用途前，非流動資產(及於一處置組中的所有個別資產和負債)按分類前的會計政策計量。在初始分類為持有待售類別至售出時，非流動資產(除以下所述的部份資產外)或處置組以賬面金額和公允價值減去出售成本兩者中的孰低者確認。在本集團財務報表中不使用這項計量政策的主要項目包括遞延稅項資產、僱員福利產生的資產和金融資產(除對附屬公司、聯營公司和合營企業的投資外)。該等資產即使為持有待售用途，也會繼續按附註2其他部份所載的政策計量。

Impairment losses on initial classification as held for sale, and on subsequent remeasurement while held for sale, are recognised in profit or loss. As long as a non-current asset is classified as held for sale, or is included in a disposal group that is classified as held for sale, the non-current asset is not depreciated or amortised.

於初始分類為持有待售用途及其後於列作持有待售用途的期間重新計量的減值損失在損益內確認。當非流動資產被歸類為持有待售用途，或被包括在分類為持有待售的處置組別，該非流動資產不予折舊或攤銷。

##### (ii) Discontinued operations

##### (ii) 已終止經營業務

A discontinued operation is a component of the Group's business, the operations and cash flows of which can be clearly distinguished from the rest of the Group and which represents a separate major line of business or geographical area of operations, or is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations, or is a subsidiary acquired exclusively with a view to resale.

已終止經營業務是本集團業務組成部份，運營及現金流量可與本集團其他業務清楚區分，且代表一項按業務或地區劃分的獨立主要業務；或作為出售一項按業務或地區劃分的獨立主要業務的單一統籌計劃之其中一部分，或為一間純粹為轉售而收購的附屬公司。

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

倘若業務被出售或符合列為持有待售的項目(詳見上文(i)的準則(如較早發生))，則分類為已終止經營業務。撤出業務時，有關業務亦會分類為已終止經營業務。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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## 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

### (aa) Non-current assets held for sale and discontinued operations (continued)

#### (ii) Discontinued operations (continued)

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

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

### (bb) Related parties

#### (a) A person, or a close member of that person's family, is related to the Group if that person:

- (i) has control or joint control over the Group;
- (ii) has significant influence over the Group; or
- (iii) is a member of the key management personnel of the Group or the Group's parent.

### (aa) 持有待售的非流動資產及已終止經營業務(續)

#### (ii) 已終止經營業務(續)

當某項業務被分類為已終止經營時，於損益表中將僅以單一數額列示，包括：

- 已終止經營業務的稅後溢利或虧損；及
- 就已終止經營業務之資產或處置組，計算其公允價值，並扣除有關出售之成本後之除稅後溢利或虧損。

### (bb) 關聯方

#### (a) 某一個人或與該個人關係密切的家庭成員應被視為與本集團有關聯，如果該個人：

- (i) 控制或共同控制本集團；
- (ii) 對本集團具有重大影響；或
- (iii) 作為本集團或本集團母公司關鍵管理人員。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### 2 主要會計政策(續)

#### (bb) Related parties (continued)

#### (bb) 關聯方(續)

**(b) An entity is related to the Group if any of the following conditions applies:**

**(b) 在滿足任何以下條件的情況下，某一實體應被視為與本集團有關聯的實體：**

- (i) The entity and the Group are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others).
- (ii) One entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of a group of which the other entity is a member).
- (iii) Both entities are joint ventures of the same third party.
- (iv) One entity is a joint venture of a third entity and the other entity is an associate of the third entity.
- (v) The entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group.
- (vi) The entity is controlled or jointly controlled by a person identified in (a).
- (vii) A person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity).
- (viii) The entity, or any member of a group of which it is a part, provides key management personnel services to the Group or the Group's parent.

- (i) 該實體和本集團均屬於同一集團的成員(即各母公司、附屬公司和同系附屬公司彼此相互關聯)。
- (ii) 一間實體是另間實體的聯營公司或合營企業(或另一實體為成員公司之集團旗下成員公司之聯營公司或合營企業)。
- (iii) 兩間實體均為同一第三方的合營企業。
- (iv) 一間實體為第三方實體的合營企業，另一實體為該第三方實體的聯營公司。
- (v) 該實體為本集團或與本集團有關連的實體就僱員福利而設的離職後福利計劃。
- (vi) 由(a)所述的個人控制或共同控制的實體。
- (vii) 受上述(a)(i)中定義的個人重大影響的實體或該個人為實體(或該實體的母公司)的關聯管理人員。
- (viii) 該實體或其所屬集團的任何成員公司，向本集團或本集團母公司提供關鍵管理人員服務。

Close members of the family of a person are those family members who may be expected to influence, or be influenced by, that person in their dealings with the entity.

與個人關係密切的家庭成員是指預期該等在與實體的交易中，可能會影響該名個人或受其影響的家屬。





## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2 主要會計政策(續)

#### (cc) Segment reporting

Operating segments, and the amounts of each segment item reported in the financial statements, are identified from the financial information provided regularly to the Group's most senior executive management for the purposes of allocating resources to, and assessing the performance of, the Group's various lines of business.

Individually material operating segments are not aggregated for financial reporting purposes unless the segments have similar economic characteristics and are similar in respect of the nature of products and services, the nature of production processes, the type or class of customers, the methods used to distribute the products or provide the services, and the nature of the regulatory environment. Operating segments which are not individually material may be aggregated if they share a majority of these criteria.

#### (cc) 分部報告

本集團為了分配資源予本集團各項業務以及評估各項業務的業績，而定期向本集團最高級行政管理層提供的財務數據。從該等資料中，可找出在財務報表中報告的經營分部和每一分部項目的金額。

個別而言屬於重大的經營分部不會在財務報告中予以匯總，除非該等分部擁有相若的經濟特性，而且其產品及服務的性質、生產流程性質、客戶的類型或類別、用以分銷產品或提供服務的方法以及監管環境的性質均相若。如果個別而言並非屬於重大的經營分部擁有以上大部份特徵可予以匯總成同一分部列示。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 3 ACCOUNTING JUDGEMENT AND ESTIMATES

The Group's financial condition and results of operations are sensitive to accounting methods, assumptions and estimates that underlie the preparation of these financial statements. The Group bases the assumptions and estimates on historical experience and on various other assumptions that the Group believes to be reasonable and which form the basis for making judgements about matters that are not readily apparent from other sources. Actual results may differ from those estimates as facts, circumstances and conditions change.

The selection of critical accounting policies, the judgements and other uncertainties affecting application of those policies and the sensitivity of reported results to changes in conditions and assumptions are factors to be considered when reviewing these financial statements. The principal accounting policies are set forth in Note 2. The Group believes the following critical accounting policies involve the most significant judgements and estimates used in the preparation of these financial statements.

#### (a) Impairment losses for non-current assets

In considering the impairment losses that may be required for certain of the Group's assets which include property, plant and equipment, investment properties, lease prepayments, intangible assets, investments in associates and unquoted equity investments, recoverable amount of the asset needs to be determined. The recoverable amount is the greater of the fair value less costs to sell and the value in use. It is difficult to precisely estimate selling price because quoted market prices for these assets may not be readily available. In determining the value in use, expected cash flows generated by the asset are discounted to their present value, which requires significant judgement relating to items such as level of sales volume, selling price and amount of operating costs. The Group uses all readily available information in determining an amount that is a reasonable approximation of recoverable amount, including estimates based on reasonable and supportable assumptions and projections of items such as sales volume, selling price and amount of operating costs.

#### (b) Impairment losses for bad and doubtful debts

The Group estimates impairment losses for bad and doubtful debts resulting from the inability of the customers and other debtors to make the required payments. The Group bases the estimates on the ageing of the receivable balance, debtors' credit-worthiness, and historical write-off experience. If the financial condition of the customers and debtors were to deteriorate, actual write-offs would be higher than estimated.

### 3 會計判斷和估計

本集團的財務狀況和經營業績對編製財務信息時所採用的會計方法、假設及估計而言屬敏感。本集團的有關假設及估計乃基於以往經驗及本集團相信屬合理的各種其他假設而做出。本集團亦按該等假設及估計為基準，對不能明顯地從其他來源確定的事項做出判斷。實際結果可能因事實，情況及條件的改變而與估計有異。

對重大會計政策的選擇、影響該等政策的應用的判斷及其他不確定因素以及報告的結果對條件及假設發生變化的敏感度均為審閱財務信息時應予以考慮的因素。主要會計政策已載列於附註2。本集團認為，在編製財務信息時，下列重大會計政策涉及至為重要的判斷及估計。

#### (a) 非流動資產減值虧損

當考慮對本集團若干資產(包括物業、廠房及設備、投資性物業、預付土地租賃款、無形資產、對聯營公司的投資及非上市權益投資)計提減值虧損時，則須確定該等資產之可收回金額。可收回金額為公允價值減銷售成本或使用價值之較高者。由於並未取得該等資產之市場報價，因此難以準確估計售價。於確定使用價值時，該資產產生之預期現金流量將折現至其現值，而此需對銷量水平、售價以及營運成本金額等項目作出重大判斷。本集團以所有現有數據確定可收回金額之合理近似金額，包括根據合理及有證據支持的假設及預測對銷量、售價及營運成本金額進行估計。

#### (b) 呆壞賬減值虧損

本集團對因客戶及其他債務人無法按規定付款而造成的呆壞賬減值虧損進行估計。本集團的估計乃基於應收結餘的賬齡、債務人的信用及以往的呆壞賬衝銷經驗而作出。倘客戶及債務人的財政狀況惡化，實際的衝銷金額可能高於估計數字。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 3 ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED) 3 會計判斷和估計(續)

#### (c) Construction contracts

As explained in accounting policies set out in Notes 2(p) and (x)(ii), revenue and profit recognition on an uncompleted project is dependent on estimating the total outcome of the construction contract, as well as the work done to date. Based on the Group's recent experience and the nature of the construction activity undertaken by the Group, the Group makes estimates of the point at which it considers the work is sufficiently advanced such that the costs to complete and revenue can be reliably estimated. As a result, until this point is reached the amounts due from customers for contract work as disclosed in Note 23 will not include profit which the Group may eventually realise from the work done to date. In addition, actual outcomes in terms of total cost or revenue may be higher or lower than estimated at the end of the reporting period, which would affect the revenue and profit recognised in future years as an adjustment to the amounts recorded to date.

#### (d) Provision for warranty

The Group provides warranties for its products for 2 to 5 years for defects and/or 10 to 25 years for guaranteed performance after sales have taken place. The Group estimates warranty costs based on the Group's historical cost data, industry data and an assessment of the Group's competitors' accrual. The warranty obligation of the Group will be affected not only by the product failure rates, but also by costs incurred to repair or replace failed products. If the actual product failure rates and cost of replacement or repairing of failed products differ from the estimates, the Group will need to prospectively revise the provision for warranty costs which would affect profit or loss in future years.

#### (e) Recognition of deferred tax assets

Deferred tax assets in respect of unused tax losses and tax credit carried forward and deductible temporary differences are recognised and measured based on the expected manner of realisation or settlement of the carrying amount of the assets, using tax rates enacted or substantively enacted at the end of the reporting period. In determining the carrying amounts of deferred assets, expected taxable profits are estimated which involves a number of assumptions relating to the operating environment of the Group and requires a significant level of judgement exercised by the directors. Any change in such assumptions and judgement would affect the carrying amounts of deferred tax assets to be recognised and hence the net profit in future years.

#### (c) 建造合同

誠如附註2(p)和(x)(ii)所載之會計政策所釋述，確認未完成項目之收入及利潤取決於估計建造合同之總結果及迄今已完成之工程。根據本集團近期經驗及本集團所進工程活動之性質，本集團於其認為工程已進展至足以可靠地估計完成成本及收入時做出估計。因此，直至此時點之前，附註23所披露的應收建造合同客戶款項不會計入本集團迄今已完成工程最終可能實現的利潤。此外，按總成本或收入計算的實際結果可能高於或低於報告期末之估計金額，並透過對迄今記錄金額作出調整而影響於未來年度確認之收入及利潤。

#### (d) 質保金撥備

產品銷售後，本集團產品提供2-5年的缺陷質保，和/或10-25年的性能質保。本集團根據其歷史成本數據、行業數據及其競爭對手的應計項目評估其保修成本。質保金撥備不僅受產品故障率的影響，同樣也受修復或替換故障產品成本之影響。倘若實際的產品故障率及修復或替換故障產品的成本與估算有異，本集團則須修訂未來的質保成本撥備，從而影響未來年度的損益。

#### (e) 確認遞延稅項資產

有關已結轉未被使用的稅項虧損和稅項減免以及可抵扣暫時性差異的遞延稅項資產，會運用於報告期末已實行或實質上已實行的稅率，按照資產賬面金額的預期實現或結算方式確認及計量。在確定遞延稅項資產的賬面值時，會對預期應課稅利潤作出估計，當中涉及多項有關本集團經營環境的假設，並要求董事作出大量判斷。當有關假設及判斷出現任何變動，將會影響將予確認的遞延稅項資產的賬面值，從而影響未來年度的淨利潤。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 3 ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED)

#### (f) Depreciation

Property, plant and equipment and investment properties are depreciated on a straight-line basis over the estimated useful lives of the assets, after taking into account the estimated residual value. The Group reviews the estimated useful lives of the assets regularly. The useful lives are based on the Group's historical experience with similar assets and taking into account anticipated technological changes. The depreciation expense for future periods is adjusted if there are significant changes from previous estimates.

#### (g) Income tax

The Group files income taxes with numerous tax authorities. Judgement is required in determining the provision for taxation as there are many transactions and calculations for which the ultimate tax determinations are uncertain during the ordinary course of business. For preferential tax treatments available for approved High and New Technology Enterprises, in determining the applicable tax rates for calculations of current income tax and deferred income tax, after passed the substantive approvals, the Group uses the expected tax rates that are probably be approved by tax authorities according to the tax rules and regulations enacted at the end of the reporting period. Where the final tax outcomes of these matters are different from the amounts originally recorded, the differences may impact on the current income tax and deferred income tax provisions in the periods in which the final tax outcomes became available.

#### (h) Contingent liabilities

Management judgement is required in the area of contingent liabilities particularly in assessing the outcome of possible obligations arising from the transactions as detailed in Note 39. Management reassesses the likelihood of the outcome of these possible obligations at the end of the reporting period. Where a change in the probability that an outflow of economic resources will be required to settle the obligation, a provision will be recognised in the period in which such determination is made.

### 3 會計判斷和估計(續)

#### (f) 折舊

物業、廠房及設備和投資性物業在扣除估計殘值之後，在資產的預計可使用期限內按直線法計提折舊。本集團定期審閱資產的預計可使用期限。可使用期限乃按本集團類似資產的以往經驗，並考慮預期的技術發展因素而確定。如果之前的預估發生了重大改變，則對未來期間的折舊開支進行調整。

#### (g) 所得稅

本集團須向多個稅務機關繳付所得稅，由於在日常業務過程中很多交易和計算的最終稅項並不確定，在確定稅項撥備時須作出判斷。就已獲取的已批准高新技術企業的稅務優惠而言，在獲得實質性的批准後，本集團於報告期末使用根據相關稅務規則及法規很可能獲稅務機關批准的稅率來確定即期稅項和遞延稅項的適用稅率。當有關事項的最終稅務結果有別於初始記錄金額時，有關差異可能影響取得最終稅務結果期間的即期所得稅和遞延所得稅撥備。

#### (h) 或有負債

管理層須對或有負債作出判斷，尤其是評估附註39所詳述交易所產生的可能責任之結果。管理層會於每個報告期末重新評估該等可能責任結果之可能性。倘經濟資源流出之可能性發生變動而將需結付債務，則於作出該項決定之期間確認撥備。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 3 ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED)

#### (i) Write-down of inventories

The Group reviews the carrying amounts of inventories at the end of the reporting period to determine whether the inventories are carried at lower of cost and net realisable value in accordance with the accounting policy set out in Note 2(o). Management estimates the net realisable value based on all available information, including the current market price of the finished goods and raw materials, and historical costs. Any change in the assumptions would increase or decrease the amount of inventories write-down or the related reversals of write-down and affect the Group's profit.

#### (j) Classification of non-current assets and disposal groups held for sale

Management judgement is required in the area of classification of non-current assets and disposal groups held for sale particularly in assessing the possibility of the sale. The Group classifies a disposal group or non-current asset as held for sale if its carrying amount will be recovered principally through a sale transaction rather than through continuing use and the sale must be highly probable. The Group reviews the possibility of the sale at the end of each reporting period.

### 4 REVENUE AND SEGMENT REPORTING

#### (a) Revenue

The Group is principally engaged in manufacturing and sale of wind turbines, ignition equipment, solar cells and modules and other related electric equipment for power plants, construction engineering of desulphurisation, denitrification, water treatment, solar energy and other environmental protection and energy conservation projects, rental of desulphurisation, denitrification facilities and provision of integrated services relating to environmental protection, energy conservation and renewable energy businesses.

Revenue represents the sales value of goods supplied to customers, revenues from construction contracts, rendering of services, service concession arrangement and rental income. Revenue is presented net of VAT, if any.

### 3 會計判斷和估計(續)

#### (i) 存貨撇減

本集團於每一報告期末對於存貨的賬面價值進行審閱，以確定存貨是否如附註2(o)中所述的會計政策以其成本及可變現淨值孰低者列賬。管理層根據全部能獲取信息，包括產成品及原材料的市場價格，以及歷史成本評估其可變現淨值。相關假設的任何變動會增加或減少存貨撇減或相關撇減轉回的金額，因而影響本集團的損益。

#### (j) 非流動資產和持有待售處置組的分類

在區分非流動資產和持有待售的處置組時需要管理層判斷，尤其是在評估出售可能性時。當一個處置組或非流動資產賬面價值的恢復主要通過出售方式而不是繼續使用，且該交易很可能發生時，本集團會將其劃分至持有待售。本集團每個報告期末覆核銷售可能性。

### 4 收入及分部報告

#### (a) 收入

本集團主要從事風力發電機、點火裝置、太陽能電池和組件及發電廠其他相關電氣設備的製造和銷售、以及脫硫脫硝、水處理、太陽能和其他環保和節能工程的建造施工、脫硫脫硝設備租賃及提供與環保、節能和可再生能源業務相關的綜合服務。

收入指向客戶出售的商品銷售價值、建造合同、提供服務及服務特許權協議取得的收入和租賃收入(扣除增值稅，如有)。



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 4 REVENUE AND SEGMENT REPORTING (CONTINUED) 4 收入及分部報告(續)

#### (a) Revenue (continued)

As disclosed in Note 11, the revenue generated by solar power products and services segment is presented as discontinued operation.

The amount of each significant category of revenue from continuing operations and discontinued operation recognised during the year is as follows:

#### (a) 收入(續)

如附註11所示，來自於太陽能產品和服務分部的收入已被重分類至已終止經營業務列示。

本年內確認的來自持續經營業務和已終止經營業務的各重大類別收入的金額列舉如下：

	Continuing operations 持續經營業務		Discontinued operation 已終止經營業務		Total 總計	
	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
Sales of goods (Note (i)) 銷售商品(附註(i))	5,649,973	9,072,469	-	27,539	5,649,973	9,100,008
Revenue from construction contracts 建造合同收入	4,567,766	5,294,591	-	121,960	4,567,766	5,416,551
Rental income from operating leases (Note (ii)) 經營租賃的租賃收入(附註(ii))	877,292	854,729	-	-	877,292	854,729
Rendering of services 提供服務	346,732	387,368	1,632	45,878	348,364	433,246
Service concession arrangement revenue (Note 41) 服務特許權協議收入(附註41)	261,239	283,892	-	-	261,239	283,892
	<b>11,703,002</b>	<b>15,893,049</b>	<b>1,632</b>	<b>195,377</b>	<b>11,704,634</b>	<b>16,088,426</b>

Notes:

- (i) Revenue from sale of goods amounting to RMBNil (2016: RMB84,106,190) is sale of wind turbines to contractors who are engaged to construct wind farms for China Guodian Corporation Ltd. ("Guodian") and related parties under Guodian.
- (ii) The amount mainly represents income related to service arrangements entered into by the Group with power plants to operate the desulphurisation and denitrification facilities for the treatment of sulphur dioxide and nitrogen oxide generated by power plants during their electricity generation. The Group acquires or constructs the facilities and then maintains and operates the facilities to provide pollutant treatment services to power plants during the useful lives of power plants. The service charge is based on the volume of electricity sold by the power plant and a tariff determined by the National Development and Reform Commission of the PRC. These arrangements are not in the legal form of leases, but are deemed as operating leases based on their terms and conditions.

附註：

- (i) 銷售商品收入中人民幣零元(2016年：人民幣84,106,190元)為向中國國電集團有限公司(「國電」)及國電下屬的關聯方建造風力發電廠的承包商銷售風力發電機的金額。
- (ii) 該金額主要為與本集團與電廠簽訂的負責脫硫及脫硝設施的運行工作以在發電過程中處理電廠生成的二氧化硫及氮氧化物之服務安排所相關的收入。本集團購買或建造設施，之後在電廠運行期負責運行設施以向電廠提供污染物處理服務。根據電廠售出的電量以及國家發展與改革委員會制定的收費標準收取服務費用。此等安排雖並不是法律形式上的租賃，但根據其條款與條件被視同為經營租賃。



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 4 REVENUE AND SEGMENT REPORTING (CONTINUED) 4 收入及分部報告(續)

#### (b) Segment reporting

The Group manages its businesses by subsidiaries, which are organised by business lines (products and services). In a manner consistent with the way in which information is reported internally to the Group's most senior executive management for the purposes of resource allocation and performance assessment, the Group has presented the following four reportable segments.

- Environmental protection segment: this segment provides environmental protection products and services which mainly consists of sulphur oxide control technologies, nitrogen oxide control technologies, rental of desulphurisation and denitrification facilities, ash removal with filter bag, water treatment related technologies and products.
- Energy conservation solutions segment: this segment provides energy saving products and services which mainly consists of plasma ignition and micro-oil ignition equipment and gas turbine improvement services and construction of energy-efficient power plants.
- Wind power products and services segment: this segment produces and sells wind turbine and its components, provides related system solutions and services to wind power operators.
- Solar power products and services segment: this segment produces and sells solar cells, solar modules and other solar products, constructs solar power stations and provides related system solutions and services to solar power operators. During the year ended 31 December 2015, the Group discontinued the operation of this segment. Please refer to Note 11 for further details.
- The Group combined other business activities that are not reportable in "All others". Revenue included in this category is mainly from the wind and solar power generation and sale of other electric power control system related products.

#### (b) 分部報告

本集團以附屬公司管理其業務，該等附屬公司以經營項目(產品和服務)組織。本集團按照分配資源、評估業績用途而向本集團最高級行政管理人員進行內部匯報所一致的方式列報以下四個可呈報分部：

- 環保分部：本分部提供環保產品和服務，主要包括脫硫技術、脫硝技術、脫硫脫硝設備租賃服務、濾袋式除塵、水處理相關技術和產品。
- 節能解決方案分部：本分部提供節能產品及服務，主要包括等離子點火、微油點火設備、氣輪機改造服務及節能電站之建造。
- 風電產品及服務分部：本分部生產和銷售風機及其組件，向風電運營商提供相關系統解決方案和服務。
- 太陽能產品及服務分部：本分部生產及銷售太陽能電池、太陽能組件及其他太陽能產品、建造太陽能電站及向太陽能運營商提供相關系統解決方案及服務。截至2015年12月31日止年度，本集團終止了該分部的經營活動。詳情請見附註11。
- 本集團將未呈報的其他經營業務歸為「所有其他」。在此類別中的收入主要源於風力和太陽能發電及銷售其他電力控制系統相關產品。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 4 REVENUE AND SEGMENT REPORTING (CONTINUED) 4 收入及分部報告(續)

#### (b) Segment reporting (continued)

##### (i) Segment results, assets and liabilities

For the purposes of assessing segment performance and allocating resources between segments, the Group's senior executive management monitors the results, assets and liabilities attributable to each reportable segment on the following bases:

Segment assets include all assets with the exception of interests in associates, other equity investments, tax recoverable, deferred tax assets and other corporate assets. Segment liabilities include all liabilities with the exception of income tax payable, deferred tax liabilities and other corporate liabilities.

Revenue and expenses are allocated to the reportable segments with reference to revenue generated by those segments and the expenses incurred by those segments.

The measure used for reporting segment profit is the gross profit. In addition to receiving segment information concerning the gross profit, management is also provided with segment information concerning depreciation and amortisation, interest income, finance costs, impairment of assets, inventory write-down and additions to segment non-current assets.

#### (b) 分部報告(續)

##### (i) 分部業績、資產及負債

為評估分部業績、在分部間分配資源，本集團高級行政管理人員按以下基準對各可呈報分部的應佔業績、資產和負債進行監控：

分部資產包括所有資產，對聯營公司的投資、其他權益投資、可收回稅項、遞延稅項資產和其他行政資產除外。分部負債包括所有負債，應付所得稅、遞延稅項負債和其他行政負債除外。

收入和費用乃參考各可呈報分部產生的收入和發生的開支分配給各可呈報分部。

用於衡量可呈報分部利潤的指標為毛利。除了收到有關毛利的分部信息外，管理人員還收到有關折舊及攤銷、利息收入、財務成本、資產減值和存貨撇減和添置分部非流動資產的分部信息。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 4 REVENUE AND SEGMENT REPORTING 4 收入及分部報告(續)

#### (CONTINUED)

#### (b) Segment reporting (continued)

##### (i) Segment results, assets and liabilities (continued)

Information regarding the Group's reportable segments as provided to the Group's most senior executive management for the purposes of resource allocation and assessment of segment performance for the years ended 31 December 2017 and 2016 is set out below:

#### (b) 分部報告(續)

##### (i) 分部業績、資產及負債(續)

提供給本集團最高級行政管理人員用作進行資源分配並對截至2017年和2016年12月31日止年度的分部業績作出評估的關於本集團可呈報分部的信息如下：

		2017					
		Continuing operations 持續經營業務				Discontinued operation 已終止經營業務	Total 總計
		Environmental protection 環保 RMB'000 人民幣千元	Energy conservation solutions 節能解決方案 RMB'000 人民幣千元	Wind power products and services 風電產品及服務 RMB'000 人民幣千元	All others 所有其他 RMB'000 人民幣千元	Solar power products and services 太陽能產品及服務 RMB'000 人民幣千元	RMB'000 人民幣千元
Revenue from external customers	外部客戶收入	4,618,951	1,953,012	4,750,393	380,646	1,632	11,704,634
Inter-segment revenue	分部間收入	20,661	2,639	12,741	39,923	-	75,964
<b>Reportable segment revenue</b>	<b>可呈報分部收入</b>	<b>4,639,612</b>	<b>1,955,651</b>	<b>4,763,134</b>	<b>420,569</b>	<b>1,632</b>	<b>11,780,598</b>
<b>Reportable segment profit/(loss) (gross profit/(loss))</b>	<b>可呈報分部利潤/(虧損) (毛利/(毛虧))</b>	<b>982,371</b>	<b>313,309</b>	<b>1,397,577</b>	<b>163,144</b>	<b>(7,944)</b>	<b>2,848,457</b>
Depreciation and amortisation	折舊及攤銷	266,262	26,080	141,981	97,035	1,349	532,707
Impairment of property, plant and equipment	物業、廠房及設備減值	42,552	-	4,461	-	58,098	105,111
Impairment of intangible assets	無形資產減值	-	31,969	-	-	-	31,969
Inventory write-down	存貨撇減	229	1,383	-	-	-	1,612
Impairment/(reversal of impairment) of trade and other receivables	應收賬款及其他應收款項 減值計提/(轉回)	137,330	(8,128)	129,892	(2,654)	22,244	278,684
Impairment of other non-current assets	其他非流動資產減值	-	-	-	-	171,175	171,175
Interest income	利息收入	25,564	30,752	2,194	3,417	887	62,814
Finance costs	財務成本	81,269	6,188	145,748	698	6,895	240,798
<b>Reportable segment assets</b>	<b>可呈報分部資產</b>	<b>12,362,153</b>	<b>3,843,546</b>	<b>13,143,815</b>	<b>2,398,087</b>	<b>1,571,028</b>	<b>33,318,629</b>
Additions to reportable segment non- current assets during the year	年內添置可呈報分部 非流動資產	193,606	6,377	87,795	5,903	54	293,735
<b>Reportable segment liabilities</b>	<b>可呈報分部負債</b>	<b>8,618,070</b>	<b>2,554,920</b>	<b>10,237,558</b>	<b>555,814</b>	<b>5,611,783</b>	<b>27,578,145</b>

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 4 REVENUE AND SEGMENT REPORTING (CONTINUED) 4 收入及分部報告(續)

#### (b) Segment reporting (continued)

#### (b) 分部報告(續)

##### (i) Segment results, assets and liabilities (continued)

##### (i) 分部業績、資產及負債(續)

		2016					
		Continuing operations 持續經營業務			Discontinued operation 已終止經營業務		Total 總計
		Energy conservation solutions 環保 節能解決方案 RMB'000 人民幣千元	Wind power products and services 風電產品及服務 RMB'000 人民幣千元	All others 所有其他 RMB'000 人民幣千元	Solar power products and services 太陽能產品及服務 RMB'000 人民幣千元		
		(restated) (重述)					(restated) (重述)
Revenue from external customers	外部客戶收入	5,912,695	1,518,274	8,038,787	423,293	195,377	16,088,426
Inter-segment revenue	分部間收入	14,751	6,495	8,478	59,218	-	88,942
<b>Reportable segment revenue</b>	<b>可呈報分部收入</b>	<b>5,927,446</b>	<b>1,524,769</b>	<b>8,047,265</b>	<b>482,511</b>	<b>195,377</b>	<b>16,177,368</b>
<b>Reportable segment profit (gross profit)</b>	<b>可呈報分部利潤(毛利)</b>	<b>1,132,496</b>	<b>267,112</b>	<b>1,986,917</b>	<b>203,556</b>	<b>5,152</b>	<b>3,595,233</b>
Depreciation and amortisation	折舊及攤銷	289,422	27,696	171,543	98,063	79,318	666,042
Impairment of property, plant and equipment	物業、廠房及設備減值	96,800	7	-	2	132,534	229,343
Reversal of impairment of lease prepayment	預付土地租賃款減值轉回	-	-	-	-	(11,895)	(11,895)
Inventory write-down	存貨撇減	17,349	1,163	3,510	-	-	22,022
Impairment/(reversal of impairment) of trade and other receivables	應收賬款及其他應收款項 減值計提/(轉回)	8,268	27,803	139,214	23,707	(181,833)	17,159
Reversal of impairment of other non- current assets	其他非流動資產減值轉回	-	-	-	-	(53,543)	(53,543)
Interest income	利息收入	22,235	42,226	2,296	3,348	527	70,632
Finance costs	財務成本	172,052	310	158,241	132	147,755	478,490
<b>Reportable segment assets</b>	<b>可呈報分部資產</b>	<b>15,951,078</b>	<b>4,553,056</b>	<b>14,040,541</b>	<b>2,327,934</b>	<b>2,095,126</b>	<b>38,967,735</b>
Additions to reportable segment non- current assets during the year	年內添置可呈報分部非流動 資產	242,176	4,334	54,632	9,980	-	311,122
<b>Reportable segment liabilities</b>	<b>可呈報分部負債</b>	<b>11,475,428</b>	<b>2,731,305</b>	<b>11,120,004</b>	<b>627,518</b>	<b>6,420,143</b>	<b>32,374,398</b>

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 4 REVENUE AND SEGMENT REPORTING 4 收入及分部報告(續)

#### (CONTINUED)

#### (b) Segment reporting (Continued)

##### (ii) Reconciliations of reportable segment revenues, profit or loss, assets and liabilities

#### (b) 分部報告(續)

##### (ii) 可呈報分部收入、利潤、資產和負債的調節

		Continuing operations		Discontinued operation		Total	
		持續經營業務		已終止經營業務		總計	
		2017	2016	2017	2016	2017	2016
		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
			(restated)				(restated)
			(重述)				(重述)
<b>Revenue</b>	<b>收入</b>						
Reportable segment revenue	可呈報分部收入	11,778,966	15,981,991	1,632	195,377	11,780,598	16,177,368
Elimination of inter-segment revenue	分部間收入抵銷	(75,964)	(88,942)	-	-	(75,964)	(88,942)
Consolidated revenue	合併收入	11,703,002	15,893,049	1,632	195,377	11,704,634	16,088,426
<b>Profit/(loss)</b>	<b>利潤/(虧損)</b>						
Reportable segment profit/(loss)	可呈報分部利潤/(虧損)	2,856,401	3,590,081	(7,944)	5,152	2,848,457	3,595,233
Elimination of inter-segment profit	分部間利潤抵銷	(800)	(1,860)	-	-	(800)	(1,860)
Reportable segment profit/(loss) derived from the Group's external customers	取得自集團外可呈報的分部利潤/(虧損)	2,855,601	3,588,221	(7,944)	5,152	2,847,657	3,593,373
Other revenue	其他收入	355,111	309,050	13,062	40,561	368,173	349,611
Other net income	其他收益淨額	560,218	328,798	108,509	87,717	668,727	416,515
Selling and distribution expenses	銷售及分銷開支	(945,493)	(1,366,875)	9,022	(10,081)	(936,471)	(1,376,956)
Administrative expenses	行政開支	(1,720,956)	(1,841,622)	(470,012)	(109,683)	(2,190,968)	(1,951,305)
Finance costs	財務成本	(563,800)	(590,443)	(6,895)	(147,755)	(570,695)	(738,198)
Share of profits less losses of associates	應佔聯營公司利潤減虧損	86,734	102,211	-	-	86,734	102,211
Consolidated profit/(loss) before taxation	合併稅前利潤/(虧損)	627,415	529,340	(354,258)	(134,089)	273,157	395,251

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 4 REVENUE AND SEGMENT REPORTING (CONTINUED) 4 收入及分部報告(續)

#### (b) Segment reporting (continued)

##### (ii) Reconciliations of reportable segment revenues, profit or loss, assets and liabilities (continued)

#### (b) 分部報告(續)

##### (ii) 可呈報分部收入、利潤、資產和負債的調節(續)

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
<b>Assets</b>	<b>資產</b>		
Reportable segment assets	可呈報分部資產	<b>33,318,629</b>	38,967,735
Inter-segment elimination	分部間抵銷	<b>(389,189)</b>	(1,112,427)
		<b>32,929,440</b>	37,855,308
Interests in associates	對聯營公司的投資	<b>419,952</b>	412,801
Other equity investments	其他權益投資	<b>162,187</b>	162,187
Tax recoverable	可回收稅項	<b>132,988</b>	151,722
Deferred tax assets	遞延稅項資產	<b>724,191</b>	613,181
Unallocated head office and corporate assets	未分配總部及行政資產	<b>1,239,492</b>	1,023,180
Consolidated total assets	合併資產總額	<b>35,608,250</b>	40,218,379
<b>Liabilities</b>	<b>負債</b>		
Reportable segment liabilities	可呈報分部負債	<b>27,578,145</b>	32,374,398
Inter-segment elimination	分部間抵銷	<b>(389,189)</b>	(966,491)
		<b>27,188,956</b>	31,407,907
Income tax payable	應付所得稅	<b>44,312</b>	51,681
Deferred tax liabilities	遞延稅項負債	<b>207,269</b>	205,338
Unallocated head office and corporate liabilities	未分配總部及行政負債	<b>234,448</b>	484,898
Consolidated total liabilities	合併負債總額	<b>27,674,985</b>	32,149,824



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 4 REVENUE AND SEGMENT REPORTING (CONTINUED) 4 收入及分部報告(續)

#### (b) Segment reporting (continued)

##### (iii) Geographical information

The Group did not have significant business operations outside the PRC, therefore no geographic segment information is presented.

##### (iv) Major customers

Revenues from Guodian and related parties under Guodian amounted to RMB7,988,340,000 (2016: RMB11,127,320,000(restated)).

#### (b) 分部報告(續)

##### (iii) 地區信息

本集團並無於中國境外經營的重大業務，因此並無呈報地區分部信息。

##### (iv) 主要客戶

從國電及國電下屬的關聯方取得的收入金額為人民幣7,988,340,000元(2016年：人民幣11,127,320,000元(重述))。

### 5 OTHER REVENUE AND OTHER NET INCOME

### 5 其他收入及其他收益淨額

		Continuing operations 持續經營業務		Discontinued operation 已終止經營業務		Total 總計	
		2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
<b>Other revenue</b>	<b>其他收入</b>						
Government grants	政府補助	131,275	161,431	-	34,191	131,275	195,622
Interest income	利息收入	118,755	85,586	887	527	119,642	86,113
Dividend income from unquoted equity investments	非上市權益投資股息收入	16,700	18,982	-	-	16,700	18,982
Others	其他	88,381	43,051	12,175	5,843	100,556	48,894
		<b>355,111</b>	<b>309,050</b>	<b>13,062</b>	<b>40,561</b>	<b>368,173</b>	<b>349,611</b>

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 5 OTHER REVENUE AND OTHER NET INCOME (CONTINUED) 5 其他收入及其他收益淨額(續)

	Continuing operations 持續經營業務		Discontinued operation 已終止經營業務		Total 總計	
	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
<b>Other net income</b>						
Net gain/(loss) on sales of raw materials	7,290	51,911	(13)	(2,116)	7,277	49,795
Net gain on disposals of subsidiaries and interest in an associate	463,186	188,947	98,268	-	561,454	188,947
Net gain on debt settlement (Note i)	-	-	10,718	75,591	10,718	75,591
Net gain on disposals of property, plant and equipment and intangible assets	4,925	57,399	-	24,435	4,925	81,834
Net foreign exchange (loss)/gain	(14,936)	26,585	2,536	(2,821)	(12,400)	23,764
Others (Note ii)	99,753	3,956	(3,000)	(7,372)	96,753	(3,416)
	<b>560,218</b>	<b>328,798</b>	<b>108,509</b>	<b>87,717</b>	<b>668,727</b>	<b>416,515</b>

Notes:

- (i) During the year ended 31 December 2017, as part of the Group's discontinued operation in the solar power products and services segment, the Group negotiated with its creditors in that segment on debt settlement and resulted in a gain of RMB10,718,000 (2016: RMB75,591,000).
- (ii) During the year ended 31 December 2017, certain accrued payables were reversed after settlement with suppliers, resulting in a gain of RMB106,468,000.

附註：

- (i) 截至2017年12月31日止年度內，本集團與已終止經營的太陽能產品和服務分部的債務人就債務清償事項進行協商，產生債務清償收益共計人民幣10,718,000元(2016年：人民幣75,591,000元)。
- (ii) 截至2017年12月31日止年度內，與供應商結算過程中，若干暫估應付賬款轉回，產生收益約人民幣106,468,000元。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 6 FINANCE COSTS

### 6 財務成本

	Continuing operations		Discontinued operation		Total		
	持續經營業務		已終止經營業務		總計		
	2017	2016	2017	2016	2017	2016	
	<i>RMB'000</i>	<i>RMB'000</i>	<i>RMB'000</i>	<i>RMB'000</i>	<i>RMB'000</i>	<i>RMB'000</i>	
	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	
Interests on bank loans and other borrowings	銀行及其他借款利息	566,518	600,011	6,895	147,755	573,413	747,766
Less: interest expenses capitalised into property, plant and equipment and construction contracts	減：資本化在物業、廠房及設備、建造合同中的利息開支	(2,718)	(9,568)	—	—	(2,718)	(9,568)
		<b>563,800</b>	590,443	<b>6,895</b>	147,755	<b>570,695</b>	738,198

The borrowing costs have been capitalised at a rate of 4.45% per annum (2016: 4.99%).

借款成本已按年利率4.45% (2016年：4.99%)作資本化。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 7 PROFIT/(LOSS) BEFORE TAXATION

Profit/(loss) before taxation is arrived at after charging/(crediting):

#### (a) Staff costs#

	Continuing operations 持續經營業務		Discontinued operation 已終止經營業務		Total 總計	
	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
Salaries, wages and other benefits 薪金、工資及其他福利	1,050,074	1,063,740	18,005	40,115	1,068,079	1,103,855
Contributions to defined contribution retirement plan (Note) 界定供款退休計劃的供款(附註)	94,934	103,970	2,036	3,269	96,970	107,239
	1,145,008	1,167,710	20,041	43,384	1,165,049	1,211,094

Note:

Pursuant to the relevant labour rules and regulations in the PRC, the Company and its PRC Subsidiaries participated in defined contribution retirement schemes (the "PRC Schemes") organised by the relevant local government authorities for its employees. The Group is required to make contributions to the PRC Schemes at 15% to 20% of basic salaries of the employees. The local government authorities are responsible for the entire pension obligations payable to retired employees. In addition, certain subsidiaries and its staff participate in a retirement plan managed by Guodian on a voluntary basis to supplement the above-mentioned schemes and the Group is required to make contributions at 5% to 10% of total salaries of the employees. The Group has no other material obligation to make payments in respect of pension benefits associated with these schemes and supplementary retirement plan other than the annual contributions described above.

### 7 稅前利潤／(虧損)

稅前利潤／(虧損)已扣除／(計入)：

#### (a) 員工成本#

附註：

根據中國相關勞動法律法規，本公司及其中國附屬公司為其員工參加了有關地方政府機關組織的界定供款退休計劃(「中國計劃」)。本集團須對中國計劃繳納員工基本薪金的15%到20%的供款。當地政府機關負責全部應付離退休職工的養老金。此外，若干附屬公司及其職工可自願參加國電管理的退休計劃作為對上述計劃的補充，本集團須繳納員工總薪金的5%到10%的供款。除上述年度供款以外，本集團沒有其他就退休福利須向這些計劃與補充退休計劃支付款項的重大責任。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 7 PROFIT/(LOSS) BEFORE TAXATION 7 稅前利潤/(虧損)(續)

#### (CONTINUED)

Profit/(loss) before taxation is arrived at after charging/(crediting):  
(continued)

稅前利潤/(虧損)已扣除/(計入)：(續)

#### (b) Other items

#### (b) 其他項目

	Continuing operations 持續經營業務		Discontinued operation 已終止經營業務		Total 總計		
	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)	
Amortisation#	攤銷#						
- lease prepayments	- 預付土地租賃款	7,253	10,896	-	2,592	7,253	13,488
- intangible assets	- 無形資產	70,569	84,449	947	2,134	71,516	86,583
Depreciation#	折舊#						
- investment properties	- 投資性物業	8,886	8,642	-	-	8,886	8,642
- property, plant and equipment	- 物業、廠房及設備	444,650	482,737	402	74,592	445,052	557,329
Impairment/(reversal of impairment)	減值虧損/(減值轉回)						
- property, plant and equipment	- 物業、廠房及設備	47,013	96,809	58,098	132,534	105,111	229,343
- lease prepayments	- 預付土地租賃款	-	-	-	(11,895)	-	(11,895)
- intangible assets	- 無形資產	31,969	-	-	-	31,969	-
- trade and other receivables	- 應收賬款及其他應收款項	256,440	198,992	22,244	(181,833)	278,684	17,159
- assets held for sale	- 持有待售資產	(401)	-	18,369	9,059	17,968	9,059
- other non-current assets	- 其他非流動資產	-	-	171,175	(53,543)	171,175	(53,543)
Auditors' remuneration	審計師酬金						
- annual audit services	- 年度審計服務	11,455	13,485	-	-	11,455	13,485
- interim review services	- 中期審閱服務	3,500	4,560	150	-	3,650	4,560
Operating lease charges#	經營租賃費用#						
- hire of plant and equipment	- 廠房及設備租賃	27,834	35,252	-	115	27,834	35,367
- hire of properties	- 物業租賃	26,399	42,992	41	213	26,440	43,205
Research and development costs	研發成本	181,942	287,421	-	-	181,942	287,421
Provision/(reversal of provision) for warranty	質保金撥備/(轉回)	97,840	405,557	(12,267)	-	85,573	405,557
Rental receivables from investment properties	投資性物業的應收租金	(45,697)	(40,798)	(11,610)	-	(57,307)	(40,798)
Direct outgoings of investment properties	投資性物業的直接開支	10,502	11,375	2,695	-	13,197	11,375
Cost of inventories* (Note 22(b))	存貨成本*(附註22(b))	3,949,605	6,788,295	-	29,184	3,949,605	6,817,479

# Cost of inventories includes staff costs, depreciation and amortisation expenses and operating lease charges, which amount is also included in the respective total amounts disclosed separately above or in Note 7(a) for each of these types of expenses.

# 存貨成本包括員工成本、折舊及攤銷費用以及經營租賃費用，這些費用的金額亦已計入在上文單獨披露或附註7(a)的各項總金額中。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 8 INCOME TAX IN THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS

### 8 合併損益表內的所得稅

(a) Taxation in the consolidated statement of profit or loss represents:

(a) 合併損益表的稅項指：

	Continuing operations 持續經營業務		Discontinued operation 已終止經營業務		Total 總計	
	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
<b>Current tax</b>						
Provision for the year	220,747	160,622	-	-	220,747	160,622
Under-provision in respect of prior years (Note(iii))	69,398	87,996	1,451	-	70,849	87,996
	290,145	248,618	1,451	-	291,596	248,618
<b>Deferred tax (Note 32(b))</b>						
Origination and reversal of temporary differences	(109,209)	(125,118)	-	-	(109,209)	(125,118)
	180,936	123,500	1,451	-	182,387	123,500

Notes:

附註：

- (i) The charge for PRC enterprise income tax for the Group's subsidiaries established in the PRC is calculated at the statutory rate of 25% (2016: 25%) on the estimated assessable profit of the period determined in accordance with relevant enterprise income tax rules and regulations, except for certain subsidiaries of the Group, which are tax exempted or taxed at a preferential rate of 12.5% or 15% (2016: 12.5% or 15%) and a subsidiary of the Group which is a small-scale enterprise and is subject to enterprise income tax at 20% (2016: 20%).
- (ii) A subsidiary of the Group is subject to Hong Kong Profits Tax at 16.5% (2016: 16.5%). Taxation for other overseas subsidiaries is charged at the appropriate rate of taxation ruling in the relevant jurisdiction.
- (iii) The current tax for the year ended 31 December 2017 included tax payments of RMB70,849,000 in respect of prior years according to tax assessments concluded by local tax bureaus.
- (i) 本集團於中國成立的附屬公司之企業所得稅支出是以根據相關企業所得稅法規規定的期間估計應繳稅利潤按法定稅率25%(2016年：25%)計算，本集團若干免稅或按12.5%或15%(2016年：12.5%或15%)優惠稅率徵稅的附屬公司，以及一家屬於小型企業並按20%(2016年：20%)徵收企業所得稅的附屬公司除外。
- (ii) 本集團有一家附屬公司按16.5%(2016年：16.5%)徵香港利得稅。其他海外附屬公司根據相關地域的適用稅率繳納稅款。
- (iii) 截止2017年12月31日的本期稅額包括支付上期當地稅務局經稅務審查被要求支付的稅款人民幣70,849,000元。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 8 INCOME TAX IN THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS (CONTINUED) 8 合併損益表內的所得稅(續)

#### (b) Reconciliations between tax expense and accounting profit at applicable tax rates:

#### (b) 稅項開支與會計利潤按照適用稅率計算的調節：

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
Profit/(loss) before taxation	稅前利潤/(虧損)		
– continuing operations	– 持續經營業務	<b>627,415</b>	529,340
– discontinued operation	– 已終止經營業務	<b>(354,258)</b>	(134,089)
		<b>273,157</b>	395,251
Notional tax on profit before taxation at PRC statutory tax rate	稅前利潤按照中國法定稅率計算的名義稅項	<b>68,289</b>	98,813
Effect on non-deductible expenses	不可扣減開支的影響	<b>12,974</b>	15,335
Effect of non-taxable income	非應稅收入的影響	<b>(4,469)</b>	(7,664)
Effect of research and development bonus deductions	研發開支加計扣除的影響	<b>(12,269)</b>	(15,760)
Effect of share of profits less losses of associates	應佔聯營公司利潤減虧損的影響	<b>(21,683)</b>	(25,553)
Effect of PRC tax concessions	中國稅務優惠的影響	<b>(92,292)</b>	(265,664)
Tax effect of unused tax losses and temporary differences not recognised	未確認的未使用稅務虧損及暫時性差異的稅項影響	<b>255,194</b>	645,587
Tax effect of unused tax losses and temporary differences not recognised in previous year but utilised or recognised in current year	本年使用或確認以往年度未確認的未使用稅務虧損及暫時性差異的稅項影響	<b>(89,787)</b>	(492,503)
Tax effect of unused tax losses and temporary differences recognised in previous year but derecognised in current year	本年終止確認以往年度確認的未使用稅務虧損及暫時性差異的稅項影響	–	87,725
Under provision in respect of prior years	以往年度撥備不足	<b>70,849</b>	87,996
Others	其他	<b>(4,419)</b>	(4,812)
Actual tax expense	實際稅項開支	<b>182,387</b>	123,500

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 9 DIRECTORS' AND SUPERVISORS' EMOLUMENTS 9 董事及監事的薪酬

Directors' and supervisors' emoluments disclosed pursuant to section 383(1) of Hong Kong Companies Ordinance and Part 2 of the Companies (Disclosure of Information about Benefits of Directors) Regulation are as follow:

根據《香港公司條例》第383(1)節以及《公司(披露董事利益數據)規例》第2部份規定披露的董事和監事薪金如下：

		Directors' and supervisors' fees	Salaries, allowances and benefits in kind	Discretionary bonuses	Retirement scheme contributions	2017 Total
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		董事費及監事費	工資、補貼及實物福利	酌情花紅	退休金供款	2017總計
		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
<b>Directors</b>	<b>董事</b>					
Mr. Chen, Dongqing (Chairman)	陳冬青先生(董事長)	-	746	255	84	1,085
Mr. Yang Guang (Resigned in August 2017)	陽光先生(2017年8月辭職)	-	437	69	27	533
Mr. Zhang, Jun (Appointed in August 2017)	張軍先生(2017年8月任職)	-	369	147	57	573
Mr. Feng Shuchen (Resigned in August 2017)	馮樹臣先生(2017年8月辭職)	-	-	-	-	-
Mr. Tang, Chaoxiong	唐超雄先生	-	577	227	77	881
Mr. Wang, Zhongqu	王忠渠先生	-	-	-	-	-
Mr. Zhang, Wenjian	張文建先生	-	-	-	-	-
Mr. Gu, Yuchun (Appointed in August 2017)	顧玉春先生(2017年8月任職)	-	-	-	-	-
Mr. Yan, Andrew Y	閻焱先生	-	-	-	-	-
<b>Independent non-executive directors</b>	<b>獨立非執行董事</b>					
Mr. Fan, Renda (Resigned in August 2017)	范仁達先生(2017年8月辭職)	88	-	-	-	88
Mr. Shen, Xiaoliu	申曉留先生	150	-	-	-	150
Mr. Qu, Jiuhui	曲久輝先生	150	-	-	-	150
Mr. Xie, Qiuye	謝秋野先生	150	-	-	-	150
Mr. Yang, Zhida (Appointed in August 2017)	楊志達先生(2017年8月任職)	104	-	-	-	104
<b>Supervisors</b>	<b>監事</b>					
Mr. Luan, Baoxing	樂寶興先生	-	-	-	-	-
Mr. Xu, Xingzhou	許興洲先生	-	-	-	-	-
Mr. Yang, Xiangbin	楊向斌先生	-	-	-	-	-
Ms. He, Lili	何麗麗女士	-	591	269	79	939
Mr. Li, Wei	李偉先生	-	371	144	72	587
		<b>642</b>	<b>3,091</b>	<b>1,111</b>	<b>396</b>	<b>5,240</b>

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 9 DIRECTORS' AND SUPERVISORS' EMOLUMENTS 9 董事及監事的薪酬(續)

#### (CONTINUED)

		Directors' and supervisors' fees	Salaries, allowances and benefits in kind	Discretionary bonuses	Retirement scheme contributions	2016 Total
		董事費及 監事費	工資、補貼及 實物福利	酌情花紅	退休金供款	2016總計
		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
<b>Directors</b>	<b>董事</b>					
Mr. Yang, Guang (Chairman)	陽光先生(董事長)	-	480	189	81	750
Mr. Wang, Zhongqu	王忠渠先生	-	-	-	-	-
Mr. Zhang, Wenjian	張文建先生	-	-	-	-	-
Mr. Feng, Shuchen	馮樹臣先生	-	-	-	-	-
Mr. Yan, Andrew Y.	閻焱先生	-	-	-	-	-
Mr. Chen, Dongqing (Appointed in March 2016)	陳冬青先生(2016年3月任職)	-	441	173	77	691
Mr. Tang, Chaoxiong (Appointed in March 2016)	唐超雄先生(2016年3月任職)	-	386	150	74	610
<b>Independent non-executive directors</b>	<b>獨立非執行董事</b>					
Mr. Shen, Xiaoliu (Appointed in March 2016)	申曉留先生(2016年3月任職)	138	-	-	-	138
Mr. Qu, Jiuwei	曲久輝先生	150	-	-	-	150
Mr. Xie, Qiuye	謝秋野先生	150	-	-	-	150
Mr. Fan, Renda	范仁達先生	150	-	-	-	150
Ms. Zhang, Xiaolu (Resigned in January 2016)	張曉魯女士(2016年1月辭職)	-	-	-	-	-
<b>Supervisors</b>	<b>監事</b>					
Mr. Shao, Guoyong (Resigned in June 2016)	邵國勇先生(2016年6月辭職)	-	-	-	-	-
Mr. Xu, Xingzhou	許興洲先生	-	-	-	-	-
Mr. Chen, Jingdong (Resigned in September 2016)	陳景東先生(2016年9月辭職)	-	-	-	-	-
Ms. He, Lili	何麗麗女士	-	411	150	75	636
Mr. Li, Wei	李偉先生	-	310	123	69	502
Mr. Luan, Baoxing (Appointed in September 2016)	樂寶興先生(2016年9月任職)	-	-	-	-	-
Mr. Yang Xiangbin (Appointed in September 2016)	楊向斌先生(2016年9月任職)	-	-	-	-	-
		588	2,028	785	376	3,777

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 10 INDIVIDUALS WITH HIGHEST EMOLUMENTS

Of the five individuals with the highest emoluments, two (2016: three) are directors and supervisors whose emoluments are disclosed in Note 9. The aggregate of the emoluments in respect of the other three (2016: two) individuals are as follows:

		<b>2017</b> <b>RMB'000</b> 人民幣千元	2016 RMB'000 人民幣千元
Salaries and other emoluments	工資及其他薪酬	<b>2,055</b>	1,189
Discretionary bonuses	酌情花紅	<b>720</b>	451
Retirement scheme contributions	退休金供款	<b>231</b>	225
		<b>3,006</b>	1,865

The emoluments of the three (2016: two) individuals with the highest emoluments are within the following bands:

		<b>2017</b> <b>Number of</b> <b>individuals</b> 人數	2016 Number of individuals 人數
Nil to HKD1,000,000	零至港幣1,000,000元	-	2
HKD1,000,000 to HKD2,000,000	港幣1,000,000元至港幣2,000,000元	<b>3</b>	-

### 10 薪酬最高的個人

薪酬最高的五位個人中，其中兩位(2016年：三位)為董事，其薪酬在附註9中進行了披露。其他三位(2016年：兩位)個人的總薪酬如下：

這三位(2016年：兩位)具有最高薪酬的個人的薪酬範圍如下：

### 11 DISCONTINUED OPERATION

During the year ended 31 December 2015, management decided to abandon all of the Group's operations under the solar power products and services segment, which constitute a major line of business of the Group, due to the challenging market conditions in the solar industry. As such, the results of the Group's operations under the solar power products and services segment were presented as discontinued operation in the consolidated financial statements.

As a result of the discontinuation of solar power products and services segment, the Group shut down the related production lines during the year ended 31 December 2015, which indicated the related property, plant and equipment, lease prepayments and intangible assets may be impaired. It is also considered that the carrying amounts of certain other assets belong to the solar power products and services segment may not be recovered or realised as previously expected. Accordingly, management conducted a review on the carrying amounts of these assets and based on the results of the assessment recognised impairment losses or assets write-downs according to the Group's applicable accounting policies at the end of each reporting period.

### 11 已終止經營業務

於截至2015年12月31日止年度，由於太陽能行業嚴峻的市場環境，管理層決定終止太陽能產品和服務分部的所有經營業務，該分部是本集團的一個主要經營業務。因此，本集團在太陽能產品及服務分部的經營成果在合併財務報表中列示為已終止經營業務。

由於太陽能產品和服務分部的業務終止，本集團於2015年12月31日關停相關生產線，相關物業、廠房和設備、預付土地租賃款和無形資產可能已出現減值。此外，管理層也考慮到，太陽能產品和服務分部的某些其他資產的賬面價值可能無法如此前預期一樣得以收回或變現。因此，管理層對該等資產的賬面價值進行覆核，並基於評估結果，在每個報告期末根據集團適用的會計政策確認減值損失或資產撇減。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



#### 11 DISCONTINUED OPERATION (CONTINUED)

The Company entered into several sale and purchase agreements with certain counter-parties during the year ended 31 December 2016, pursuant to which the Company proposed to dispose of the main assets/liabilities of solar power products and services segment. Such assets and liabilities were presented as non-current assets and disposal groups held for sale in the consolidated financial statements as at 31 December 2017 and 2016.

#### 11 已終止經營業務(續)

截至2016年12月31日止本公司與部分交易方簽署了買賣協議，提議處置太陽能產品及服務分部的主要資產／負債。於2017年及2016年12月31日截止的報告期末該部分資產及負債在合併財務報表中以持有待售的非流動資產及處置組列示。

		Note 附註	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元
<b>Revenue</b>	收入	4	<b>1,632</b>	195,377
Cost of sales	銷售成本		<b>(9,576)</b>	(190,225)
<b>Gross (loss)/profit</b>	(毛虧)／毛利		<b>(7,944)</b>	5,152
Other revenue	其他收入	5	<b>13,062</b>	40,561
Other net income	其他淨收益	5	<b>108,509</b>	87,717
Selling and distribution expenses	銷售及分銷開支		<b>9,022</b>	(10,081)
Administrative expenses	行政開支		<b>(470,012)</b>	(109,683)
<b>(Loss)/profit from operation</b>	經營(虧損)／收益		<b>(347,363)</b>	13,666
Finance costs	財務成本	6	<b>(6,895)</b>	(147,755)
<b>Loss before taxation from a discontinued operation</b>	已終止經營業務的稅前虧損	7	<b>(354,258)</b>	(134,089)
Income tax	所得稅	8	<b>(1,451)</b>	—
<b>Loss for the year from a discontinued operation</b>	已終止經營業務的本年度虧損		<b>(355,709)</b>	(134,089)
<b>Attributable to:</b>	歸屬於：			
Equity shareholders of the Company	本公司權益股東		<b>(353,730)</b>	(133,011)
Non-controlling interests	非控股權益		<b>(1,979)</b>	(1,078)
<b>Loss for the year from a discontinued operation</b>	已終止經營業務的本年度虧損		<b>(355,709)</b>	(134,089)

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 11 DISCONTINUED OPERATION (CONTINUED)

The net cash flows incurred by the discontinued operation are as follows:

	2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
Net cash (used in)/generated from operating activities 經營活動中(使用)/產生的淨現金	<b>(46,012)</b>	81,972
Net cash generated from investing activities 投資活動中產生的淨現金	<b>40,452</b>	-
Net cash generated from/(used in) financing activities 融資活動中產生/(使用)的淨現金	<b>983</b>	(106,072)
Net cash outflow 淨現金流出	<b>(4,577)</b>	(24,100)

### 11 已終止經營業務(續)

已終止經營業務產生的淨現金流如下：

### 12 EARNINGS/(LOSS) PER SHARE

The calculation of basic earnings per share is based on the profit attributable to ordinary equity shareholders of the Company of RMB43,703,000 (2016: RMB320,672,000 (restated)) and the weighted average of 6,063,770,000 ordinary shares (2016: 6,063,770,000 ordinary shares) in issue during the year ended 31 December 2017.

There were no dilutive potential ordinary shares in existence during the years ended 31 December 2017 and 2016.

Profit/(loss) attributable to ordinary equity shareholders of the Company used in the basic and diluted earnings/(loss) per share calculations:

	2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
From continuing operations 持續經營業務	<b>397,433</b>	453,683
From a discontinued operation (Note 11) 已終止經營業務(附註11)	<b>(353,730)</b>	(133,011)
	<b>43,703</b>	320,672

### 12 每股收益/(虧損)

每股基本收益的計算依據為歸屬於本公司普通股股東的收益人民幣43,703,000元(2016年：人民幣320,672,000元(重述))以及截至2017年12月31日止年度發行在外普通股的加權平均數為6,063,770,000股(2016年：6,063,770,000股普通股)。

於截至2017年及2016年12月31日止年度內，本公司不存在稀釋性潛在普通股。

在計算基本和攤薄每股收益/(虧損)時使用的歸屬於本公司的普通股股東的盈利/(虧損)為：



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 13 PROPERTY, PLANT AND EQUIPMENT

### 13 物業、廠房及設備

		Land, buildings and structures 土地·樓宇 及建築物 RMB'000 人民幣千元	Machinery and equipment 機器及設備 RMB'000 人民幣千元	Motor vehicles 汽車 RMB'000 人民幣千元	Furniture, fixtures and others 家具裝置 及其他 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
<b>Cost:</b>	<b>成本：</b>						
At 1 January 2016 (as previously reported)	於2016年1月1日(往期披露)	5,206,393	9,146,445	208,546	499,878	529,789	15,591,051
Effect on acquisition of a subsidiary under common control	收購同一控制下附屬公司的影響	5,269	-	-	327	-	5,596
At 1 January 2016 (restated)	於2016年1月1日(重述)	5,211,662	9,146,445	208,546	500,205	529,789	15,596,647
Additions (restated)	增加(重述)	3,091	22,015	1,293	14,582	230,978	271,959
Transfer from construction in progress (restated)	在建工程轉入(重述)	9,974	313,294	-	779	(324,047)	-
Transfer to investment properties (Note 14)	轉作投資性物業(附註14)	(15,783)	-	-	-	-	(15,783)
Disposals	出售	(396,095)	(3,084,188)	(9,057)	(5,568)	(193,588)	(3,688,496)
Disposal of subsidiaries	處置子公司	-	-	(348)	(37)	(9,691)	(10,076)
Reclassified as assets held for sale	重分類至持有待售資產	(1,943,646)	(1,509,575)	(24,816)	(122,803)	(86,083)	(3,686,923)
At 31 December 2016 and 1 January 2017 (restated)	於2016年12月31日及2017年1月1日(重述)	2,869,203	4,887,991	175,618	387,158	147,358	8,467,328
Additions	增加	<b>2,418</b>	<b>1,620</b>	<b>247</b>	<b>33,123</b>	<b>128,065</b>	<b>165,473</b>
Transfer from construction in progress	在建工程轉入	<b>10,849</b>	<b>78,413</b>	-	-	<b>(89,262)</b>	-
Transfer from investment properties (Note 14)	轉自投資性物業(附註14)	<b>1,839</b>	-	-	-	-	<b>1,839</b>
Disposals	出售	-	<b>(343)</b>	<b>(8,257)</b>	<b>(2,464)</b>	<b>(2,905)</b>	<b>(13,969)</b>
Reclassified as assets held for sale	重分類至持有待售資產	-	<b>(721)</b>	<b>(2,203)</b>	<b>(1,711)</b>	-	<b>(4,635)</b>
At 31 December 2017	於2017年12月31日	<b>2,884,309</b>	<b>4,966,960</b>	<b>165,405</b>	<b>416,106</b>	<b>183,256</b>	<b>8,616,036</b>

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 13 PROPERTY, PLANT AND EQUIPMENT (CONTINUED) 13 物業、廠房及設備(續)

		Land, buildings and structures 土地、樓宇 及建築物 RMB'000 人民幣千元	Machinery and equipment 機器及設備 RMB'000 人民幣千元	Motor vehicles 汽車 RMB'000 人民幣千元	Furniture, fixtures and others 家具裝置 及其他 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
<b>Accumulated depreciation and impairment losses:</b>	<b>累計折舊及減值損失：</b>						
At 1 January 2016 (as previously reported)	於2016年1月1日(往期披露)	1,614,144	3,995,719	145,841	268,865	43,552	6,068,121
Effect on acquisition of a subsidiary under common control	收購同一控制下附屬公司的影響	511	-	-	244	-	755
At 1 January 2016 (restated)	於2016年1月1日(重述)	1,614,655	3,995,719	145,841	269,109	43,552	6,068,876
Depreciation charge for the year (restated)	本年度折舊費(重述)	177,319	315,224	14,555	50,231	-	557,329
Impairment loss	減值損失	94,341	120,914	2,057	8,053	3,978	229,343
Transfer to investment properties (Note 14)	轉作投資性物業(附註14)	(9,112)	-	-	-	-	(9,112)
Written back on disposals	因出售而撥回	(128,649)	(943,619)	(4,604)	(745)	-	(1,077,617)
Disposals of subsidiaries	處置子公司	-	-	(272)	(31)	(9,691)	(9,994)
Reclassified as assets held for sale	重分類至持有待售資產	(1,029,280)	(994,682)	(17,767)	(76,373)	(33,861)	(2,151,963)
At 31 December 2016 and 1 January 2017 (restated)	於2016年12月31日及2017年1月1日(重述)	719,274	2,493,556	139,810	250,244	3,978	3,606,862
Depreciation charge for the year	本年度折舊費	<b>133,109</b>	<b>265,713</b>	<b>8,524</b>	<b>37,706</b>	-	<b>445,052</b>
Impairment loss (Note (iii))	減值損失(附註(iii))	-	<b>100,650</b>	-	-	<b>4,461</b>	<b>105,111</b>
Transfer to investment properties (Note 14)	轉作投資性物業(附註14)	(117)	-	-	-	-	(117)
Written back on disposals	因出售而撥回	-	(327)	(8,252)	(2,248)	-	(10,827)
Reclassified as assets held for sale	重分類至持有待售資產	-	(264)	(1,047)	(933)	-	(2,244)
At 31 December 2017	於2017年12月31日	<b>852,266</b>	<b>2,859,328</b>	<b>139,035</b>	<b>284,769</b>	<b>8,439</b>	<b>4,143,837</b>
<b>Net book value:</b>	<b>賬面淨值：</b>						
At 31 December 2017	於2017年12月31日	<b>2,032,043</b>	<b>2,107,632</b>	<b>26,370</b>	<b>131,337</b>	<b>174,817</b>	<b>4,472,199</b>
At 31 December 2016	於2016年12月31日	2,149,929	2,394,435	35,808	136,914	143,380	4,860,466

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 13 PROPERTY, PLANT AND EQUIPMENT (CONTINUED) 13 物業、廠房及設備(續)

Notes:

- (i) The Group's plants and buildings are located in the PRC.
- (ii) As at 31 December 2017, the Group is in the process of applying for the ownership certificates for certain of its properties. The aggregate carrying value of such properties of the Group as at 31 December 2017 is approximately RMB99,524,000 (2016: RMB93,436,000). The directors of the Company are of the opinion that the Group is entitled to lawfully occupy or use these properties.
- (iii) During the year ended 31 December 2017, due to the continuous depressed solar power products and services business in the PRC, the directors of the Company concluded further impairment losses on the machinery and equipment related to the Group's solar power products and services segment are required. The directors of the Company determined recoverable amount of the solar power products and serviced segment on the basis of fair value less cost of disposal. Accordingly, impairment loss of RMB58,098,000 (2016: RMB132,534,000) on the Group's property, plant and equipment were recognised.

During the year ended 31 December 2017, certain subsidiaries of the Group recorded a significant decrease in revenue or were loss making due to various market, economic and political factors, which included severe market competition, delays in operations influenced by government policies and decreases in market demand. The Group assessed the recoverable amounts by using value in use model or fair value less cost of disposal model, and recognised impairment losses on property, plant and equipment with an aggregate amount of RMB47,013,000 (2016: RMB96,809,000).

附註：

- (i) 本集團的廠房及樓宇均位於中國。
- (ii) 於2017年12月31日，本集團正在為若干物業辦理產權證。於2017年12月31日，本集團的此類物業總值為人民幣99,524,000元(2016年：人民幣93,436,000元)。董事們認為，本集團有權合法佔有或使用此等物業。
- (iii) 截至2017年12月31日止年度，由於中國太陽能產品和服務業務持續低迷，本公司董事要求進一步計提本集團太陽能產品和服務分部機械設備的減值損失。本公司董事以公允價值減去處置成本後的價值為基礎，確定了太陽能產品和服務分部的可收回金額。因此，本集團物業、廠房及設備確認減值虧損人民幣58,098,000元(2016年：人民幣132,534,000)。

截至2017年12月31日止年度，因為各種市場、經濟和政治因素，本集團部分附屬公司收入大幅下降甚至出現虧損，包括激烈的市場競爭，政府政策導致開工延遲以及市場需求的減少。本集團使用使用價值模式或公允價值扣除處置成本模式評估物業、廠房及設備的可收回金額，確認的減值損失總金額為人民幣47,013,000元(2016年：人民幣96,809,000元)。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 14 INVESTMENT PROPERTIES

### 14 投資性物業

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
<b>Cost:</b>	<b>成本：</b>		
At 1 January	於1月1日	<b>322,977</b>	304,256
Transfer (to)/from property, plant and equipment	轉(出)/入自物業、廠房及設備	<b>(1,839)</b>	15,783
Transfer from lease prepayment	由預付租賃款轉入	-	2,938
At 31 December	於12月31日	<b>321,138</b>	322,977
<b>Accumulated depreciation:</b>	<b>累計折舊：</b>		
At 1 January	於1月1日	<b>76,938</b>	58,028
Depreciation charge for the year	本年度折舊費	<b>8,886</b>	8,642
Transfer from property, plant and equipment	由物業、廠房及設備轉入	<b>117</b>	9,112
Transfer from lease prepayment	由預付租賃款轉入	-	1,156
At 31 December	於12月31日	<b>85,941</b>	76,938
<b>Net book value</b>	<b>賬面淨值</b>	<b>235,197</b>	246,039

All the investment properties owned by the Group are located in the PRC.

本集團所有的投資性物業均位於中國。

#### (a) Investment properties leased out under operating lease

The Group lease out investment properties under operating leases. The leases typically run for an initial period of 1 to 10 years, with an option to renew the lease after that date at which time all terms are re-negotiated. Lease payments are usually adjusted upon the expiry of lease terms to reflect market rentals. None of the leases includes contingent rentals.

The Group's total future minimum lease payments under non-cancellable operating leases are receivable as follows:

#### (a) 根據經營租賃出租的投資性物業

本集團以經營租賃租出投資性物業。一般初始租賃期均為1-10年，到期之後可以續租，屆時雙方將就所有租賃條款重新談判。租期到期之後一般根據市場租金進行調整。所有租賃合同均不存在或有租金。

在不可解除的經營租賃項下，本集團未來應收的最低租賃付款總額如下：

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
Within 1 year	1年內	<b>12,211</b>	11,984

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 14 INVESTMENT PROPERTIES (CONTINUED)

#### (b) Fair values of investment properties

##### (i) Fair value hierarchy

The following table presents the fair value of the Group's investment properties measured at the end of the reporting period on a recurring basis for disclosure purpose, categorised into the three-level fair value hierarchy as defined in IFRS 13, Fair value measurement. The level into which a fair value measurement is classified is determined with reference to the observability and significance of the inputs used in the valuation technique as follows:

- Level 1 valuations: Fair value measured using only Level 1 inputs i.e. unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date.
- Level 2 valuations: Fair value measured using Level 2 inputs i.e. observable inputs which fail to meet Level 1, and not using significant unobservable inputs. Unobservable inputs are inputs for which market data are not available.
- Level 3 valuations: Fair value measured using significant unobservable inputs.

### 14 投資性物業(續)

#### (b) 投資性物業公允價值

##### (i) 公允價值等級

下表提供了本集團於報告期末為披露之目的重複計量的投資性物業的公允價值，並按《國際財務報告準則第13號》「公允價值計量」中所定義分為三個公允價值層級。公允價值計量層級是根據評估方法中使用的輸入數據的可觀察性和重要性來確定劃分的，具體如下：

- 第1層級估值：僅使用1級輸入數據進行計量的公允價值，即計量之日相同資產或負債的活躍市場中未經調整的報價。
- 第2層級估值：使用2級輸入數據進行計量的公允價值，即不符合1級要求且未使用不可觀察的重要輸入數據的可觀察輸入數據。不可觀察輸入數據是不存在市場數據的輸入數據。
- 第3層級估值：使用不可觀察的重要輸入數據進行計量的公允價值。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 14 INVESTMENT PROPERTIES (CONTINUED)

### 14 投資性物業(續)

#### (b) Fair values of investment properties (continued)

#### (b) 投資性物業公允價值(續)

##### (i) Fair value hierarchy (continued)

##### (i) 公允價值等級(續)

		Fair value measurement as at 31 December 2017 categorised into 於2017年12月31日公允價值計量，並分為：			
		Fair value at 31 December 2017 於2017年 12月31日 公允價值 RMB'000 人民幣千元	Level 1 第一層級 RMB'000 人民幣千元	Level 2 第二層級 RMB'000 人民幣千元	Level 3 第三層級 RMB'000 人民幣千元
<b>Recurring fair value measurements</b>	<b>重複的公允價值計量</b>				
Investment properties	投資性物業	791,016	-	791,016	-

		Fair value measurement as at 31 December 2016 categorised into 於2016年12月31日公允價值計量，並分為：			
		Fair value at 31 December 2016 於2016年 12月31日 公允價值 RMB'000 人民幣千元	Level 1 第一層級 RMB'000 人民幣千元	Level 2 第二層級 RMB'000 人民幣千元	Level 3 第三層級 RMB'000 人民幣千元
<b>Recurring fair value measurements</b>	<b>重複的公允價值計量</b>				
Investment properties	投資性物業	631,883	-	631,883	-

##### (ii) Valuation techniques and inputs used in Level 2 fair value measurements

##### (ii) 在第2層級公允價值計量中採用的評估方法和輸入數據

The fair value of investment properties is determined using market comparison approach by reference to recent sales price of comparable properties on a price per square meter basis using market data which is publicly available.

投資性物業的公允價值是通過參考公開的市場數據中可比物業以每平方米價格為基礎之最近售價，按市場比較法來確定。



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 15 LEASE PREPAYMENTS

### 15 預付土地租賃款

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元
<b>Cost:</b>	<b>成本：</b>		
At 1 January	於1月1日	<b>380,018</b>	946,760
Additions	增加	-	11,901
Transfer to investment properties (Note 14)	轉入投資性物業(附註14)	-	(2,938)
Reclassified as assets held for sale	重分類至持有待售資產	<b>(13,600)</b>	(575,705)
At 31 December	於12月31日	<b>366,418</b>	380,018
<b>Accumulated amortisation and impairment losses:</b>	<b>累計攤銷及減值損失</b>		
At 1 January	於1月1日	<b>49,282</b>	250,637
Amortisation for the year	本年度攤銷費	<b>7,253</b>	13,488
Transfer to investment properties (Note 14)	轉入投資性物業(附註14)	-	(1,156)
Reversal of impairment loss	(減值損失轉回)	-	(11,895)
Reclassified as assets held for sale	重分類至持有待售資產	-	(201,792)
At 31 December	於12月31日	<b>56,535</b>	49,282
<b>Net book value</b>	<b>賬面淨值</b>	<b>309,883</b>	330,736

Notes:

- (i) Lease prepayments mainly represent prepayments for rights to use land, which is all located in the PRC, for own use properties with lease periods of 25 to 50 years. There were no unpaid lease prepayments as at 31 December 2017 and 2016.
- (ii) As at 31 December 2017, the Group was in the process of applying for registration of the ownership certificates for certain of its land use rights. The aggregate carrying value of such land use rights of the Group as at 31 December 2017 is approximately RMB14,500,000 (2016: RMB14,500,000). The directors of the Company are of the opinion that the Group is entitled to lawfully occupy or use these land.

附註：

- (i) 預付土地租賃款主要是土地使用權預付款，所有使用土地均位於中國，作為自用物業，租賃期為25-50年。於2017年及2016年12月31日，均不存在未支付的預付土地租賃款。
- (ii) 於2017年12月31日，本集團正在為若干土地使用權辦理產權證。於2017年12月31日，本集團的此等土地所有權總價值約為人民幣14,500,000元(2016年：人民幣14,500,000元)。董事們認為，本集團有權合法地佔有或使用此等土地。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 16 INTANGIBLE ASSETS

### 16 無形資產

		Concession asset 特許權資產 RMB'000 人民幣千元	Technical know-how 專業技術 RMB'000 人民幣千元	Development costs 開發成本 RMB'000 人民幣千元	Software and others 軟件及其他 RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
<b>Cost:</b>	<b>成本</b>					
At 1 January 2016 (as previously reported)	於2016年1月1日 (往期披露)	1,031,242	101,604	436,167	65,044	1,634,057
Effect on acquisition of a subsidiary under common control	收購同一控制下附屬 公司的影響	-	-	80	578	658
At 1 January 2016 (restated)	於2016年1月1日(重述)	1,031,242	101,604	436,247	65,622	1,634,715
Additions (restated)	增加(重述)	1,784	-	12,976	12,502	27,262
Disposals (restated)	出售(重述)	-	-	(40,438)	(602)	(41,040)
Reclassified as assets held for sale	重分類至持有待售資產	-	(9,017)	-	(3,586)	(12,603)
At 31 December 2016 and 1 January 2017 (restated)	於2016年12月31日及 2017年1月1日(重述)	1,033,026	92,587	408,785	73,936	1,608,334
Additions	增加	<b>20,513</b>	-	<b>32,287</b>	<b>21,932</b>	<b>74,732</b>
Disposals	出售	-	-	<b>(17,424)</b>	-	<b>(17,424)</b>
Reclassified as assets held for sale	重分類至持有待售資產	-	-	-	<b>(362)</b>	<b>(362)</b>
At 31 December 2017	於2017年12月31日	<b>1,053,539</b>	<b>92,587</b>	<b>423,648</b>	<b>95,506</b>	<b>1,665,280</b>
<b>Accumulated amortisation and impairment losses:</b>	<b>累計攤銷及減值損失：</b>					
At 1 January 2016 (as previously reported)	於2016年1月1日(往期披露)	152,845	81,242	71,287	26,586	331,960
Effect on acquisition of a subsidiary under common control	收購同一控制下附屬 公司的影響	-	-	-	63	63
At 1 January 2016 (restated)	於2016年1月1日(重述)	152,845	81,242	71,287	26,649	332,023
Amortisation (restated) (Note (iii))	攤銷(重述)(附註(iii))	31,670	3,875	41,863	9,175	86,583
Disposals	出售	-	-	-	(252)	(252)
Reclassified as assets held for sale	重分類至持有待售資產	-	(5,184)	-	(1,954)	(7,138)
At 31 December 2016 and 1 January 2017 (restated)	於2016年12月31日及 2017年1月1日(重述)	184,515	79,933	113,150	33,618	411,216
Amortisation (Note (iii))	攤銷(附註(iii))	<b>21,780</b>	<b>1,629</b>	<b>38,777</b>	<b>9,330</b>	<b>71,516</b>
Disposals	出售	-	-	<b>(13,270)</b>	-	<b>(13,270)</b>
Impairment loss	減值損失	<b>31,969</b>	-	-	-	<b>31,969</b>
Reclassified as assets held for sale	重分類至持有待售資產	-	-	-	<b>(72)</b>	<b>(72)</b>
At 31 December 2017	於2017年12月31日	<b>238,264</b>	<b>81,562</b>	<b>138,657</b>	<b>42,876</b>	<b>501,359</b>
<b>Net book value:</b>	<b>賬面淨值：</b>					
At 31 December 2017	於2017年12月31日	<b>815,275</b>	<b>11,025</b>	<b>284,991</b>	<b>52,630</b>	<b>1,163,921</b>
At 31 December 2016	於2016年12月31日	848,511	12,654	295,635	40,318	1,197,118

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 16 INTANGIBLE ASSETS (CONTINUED)

Notes:

- (i) Concession assets represent the rights the Group received for the usage of the concession water treatment plants for the treatment of water. The concession assets are amortised over the operating period of the service concession projects.
- (ii) The amortisation charges of RMB25,147,000 (2016: RMB35,950,000), RMB45,958,000 (2016: RMB48,499,000) and RMB411,000 (2016: RMB2,134,000) are included in "cost of sales", "administrative expenses" and "loss for the year from a discontinued operation" in the consolidated statement of profit or loss respectively.
- (iii) As at 31 December 2017, certain of the Group's interest-bearing bank loans and other borrowings were secured by concession assets (see Note 29), which had an aggregate net book value of RMB613,961,000 (2016: RMB614,148,000).

### 16 無形資產(續)

附註：

- (i) 特許權資產指本集團享有的特許經營權，即污水處理的經營權。特許權資產在特許經營項目經營期間進行攤銷。
- (ii) 合併損益表中的「銷售成本」、「行政開支」和「終止經營的年度虧損」項目下分別包括無形資產攤銷費用人民幣25,147,000元(2016年：人民幣35,950,000元)、人民幣45,958,000元(2016年：人民幣48,499,000元)及人民幣411,000元(2016年：人民幣2,134,000元)
- (iii) 於2017年12月31日，本集團的若干帶息銀行貸款及其他借款以特許權資產作抵押(見附註29)，其賬面淨值總額為人民幣613,961,000元(2016年：人民幣614,148,000元)。

### 17 GOODWILL

### 17 商譽

	<b>2017</b> <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元
At 1 January 2016, 31 December 2016 and 31 December 2017	57,591	57,591

Goodwill is allocated to the Group's cash-generating units identified according to operation and operating segment as follows:

商譽分配到根據下列業務及經營分部劃分的本集團現金產生單元：

	<b>2017</b> <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元
Environmental protection	57,591	57,591

The recoverable amounts of CGUs are determined based on value-in-use calculations. These calculations use cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using zero growth rate. The cash flows are discounted using discount rates ranging from 12.9 % to 16.0 % (2016: 12.9 % to 16.0 %). The discount rates used are pre-tax and reflect specific risks relating to the relevant segment.

現金產生單元的可收回數額乃按使用價值計算而確定。有關價值的計算根據本公司管理層批覆之五年期間的財務預算的現金流預測。超過五年期的現金流量採用零增長率推算。現金流量預測計算採用由12.9%至16.0%的折現率(2016年：12.9%至16.0%)。所採用的折現率為稅前折現率，並反映相關分部的特定風險。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 18 INVESTMENTS IN SUBSIDIARIES

The following list contains only the particulars of subsidiaries as at 31 December 2017 which principally affected the results, assets or liabilities of the Group. All of the PRC subsidiaries are limited liability companies.

### 18 對附屬公司的投資

於2017年12月31日，對本集團業績、資產或負債具有主要影響的附屬公司的詳情列舉如下。所有中國附屬公司均為有限責任公司。

Name of the company 公司名稱	Place of establishment/ incorporation 成立/註冊地	Issued and fully paid-up capital 已發行且全部 繳足的資本	Proportion of ownership interest 所有者權益比例			Principal activities 主營業務
			Group's effective interest 本集團的 有效權益	Held by the Company 由本公司 持有	Held by subsidiaries 附屬公司 持有	
Beijing Guodian Longyuan Environmental Engineering Co., Ltd. 北京國電龍源環保工程有限公司	The PRC 中國	RMB1,613,000,000 人民幣1,613,000,000	100%	100%	-	Provision of desulphurisation and other environmental protection engineering services 提供脫硫及其他環保工程服務
Jiangsu Deke Environmental Equipment Co., Ltd. 江蘇德克環保設備有限公司	The PRC 中國	RMB80,000,000 人民幣80,000,000	67.46%	-	67.46%	Production and sale of environmental protection equipment 環保設備的生產與銷售
Bengbu Guodian Longyuan Environmental Development Co., Ltd. 蚌埠國電龍源環保發展有限公司	The PRC 中國	RMB30,000,000 人民幣30,000,000	100%	-	100%	Operation of environmental protection facilities 環保設施的經營
Jiangsu Longyuan Catalyst Co., Ltd. 江蘇龍源催化劑有限公司	The PRC 中國	RMB50,000,000 人民幣50,000,000	100%	-	100%	Production and sale of selective catalytic reduction catalyst 選擇性催化還原催化劑的生產與銷售
Nanjing Longyuan Environmental Co., Ltd. 南京龍源環保有限公司	The PRC 中國	RMB101,000,000 人民幣101,000,000	60%	-	60%	Provision of environmental protection engineering services 提供環保工程服務
Puyang Guodian Longyuan Water Treatment Co., Ltd. 濮陽國電龍源水務有限公司	The PRC 中國	RMB10,000,000 人民幣10,000,000	70%	-	70%	Operation of water treatment projects 水處理項目的經營
Yixing Guodian Jinghui Environment Equipment Co., Ltd. 宜興國電精輝環保設備有限公司	The PRC 中國	RMB12,000,000 人民幣12,000,000	100%	-	100%	Production and sale of selective catalytic reduction catalyst 選擇性催化還原催化劑的生產與銷售
Hanchuan Longyuan Boqi Environmental Technology Co., Ltd. 漢川龍源博奇環保科技有限公司	The PRC 中國	RMB110,000,000 人民幣110,000,000	70%	-	70%	Operation of environmental protection facilities 環保設施的經營
Guodian Technology & Environment Group Hong Kong Corporation Limited (Note (1)) (附註(1))	Hong Kong 香港	22,000,000 ordinary shares 22,000,000普通股	100%	100%	-	Sale of desulphurisation equipment 脫硫設備的銷售

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 18 INVESTMENTS IN SUBSIDIARIES (CONTINUED)

### 18 對附屬公司的投資(續)

Name of the company 公司名稱	Place of establishment/ incorporation 成立/註冊地	Issued and fully paid-up capital 已發行且全部 繳足的資本	Proportion of ownership interest 所有者權益比例			Principal activities 主營業務
			Group's effective interest 本集團的 有效權益	Held by the Company 由本公司 持有	Held by subsidiaries 附屬公司 持有	
Beijing Lucency Environment and Technology Co., Ltd. 北京朗新明環保科技有限公司	The PRC 中國	RMB500,000,000 人民幣500,000,000	100%	100%	-	Construction and operation of water treatment projects 水處理項目的施工與經營
Dalian Delang Water Treatment Co., Ltd. 大連德朗水務有限公司	The PRC 中國	RMB20,000,000 人民幣20,000,000	51%	-	51%	Operation of water treatment projects 水處理項目的經營
Shanxi Xinyuan Environment Protection Resources Development Co., Ltd. 山西新源環保資源開發有限責任公司	The PRC 中國	RMB13,000,000 人民幣13,000,000	51%	-	51%	Construction and operation of water treatment projects 水處理項目的施工與經營
Taiyuan Lucency Sewage Treatment Co., Ltd. 太原朗新明污水處理有限公司	The PRC 中國	RMB102,000,000 人民幣102,000,000	80%	-	80%	Design and installation of sewage treatment equipment 污水處理設備的設計與安裝
Dalian Economic and Technical Development Zone Drain Management Co., Ltd. 大連經濟技術開發區排水管理有限公司	The PRC 中國	RMB53,442,000 人民幣53,442,000	50%	-	50%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water Corporation Limited 國電銀河水務股份有限公司	The PRC 中國	RMB300,000,000 人民幣300,000,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water (Shanxian) Co., Ltd. 國電銀河水務(單縣)有限公司	The PRC 中國	RMB15,000,000 人民幣15,000,000	70%	-	70%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water (Shouguang) Co., Ltd. 國電銀河水務(壽光)有限公司	The PRC 中國	RMB60,000,000 人民幣60,000,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water (Dezhou) Co., Ltd. 國電銀河水務(德州)有限公司	The PRC 中國	RMB21,409,200 人民幣21,409,200	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water (Changle) Co., Ltd. 國電銀河水務(昌樂)有限公司	The PRC 中國	RMB32,550,000 人民幣32,550,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water (Caoxian) Co., Ltd. 國電銀河水務(曹縣)有限公司	The PRC 中國	RMB12,000,000 人民幣12,000,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 18 INVESTMENTS IN SUBSIDIARIES (CONTINUED)

### 18 對附屬公司的投資(續)

Name of the company 公司名稱	Place of establishment/ incorporation 成立/註冊地	Issued and fully paid-up capital 已發行且全部 繳足的資本	Proportion of ownership interest 所有者權益比例			Principal activities 主營業務
			Group's effective interest 本集團的 有效權益	Held by the Company 由本公司 持有	Held by subsidiaries 附屬公司 持有	
Galaxy Water (Tengzhou Mushi) Co., Ltd. 銀河水務(滕州木石)有限公司	The PRC 中國	RMB13,250,000 人民幣13,250,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water (Qingdao Development Zone) Co., Ltd. 國電銀河水務(青島開發區)有限公司	The PRC 中國	RMB72,000,000 人民幣72,000,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Jining Galaxy Water Treatment Co., Ltd. 濟寧銀河水務有限公司	The PRC 中國	RMB51,710,400 人民幣51,710,400	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian Galaxy Water (Tengzhou) Co., Ltd. 國電銀河水務(滕州)有限公司	The PRC 中國	RMB47,000,000 人民幣47,000,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Zhucheng Galaxy Water Treatment Co., Ltd. 諸城銀河污水處理有限公司	The PRC 中國	RMB50,000,000 人民幣50,000,000	70%	-	100%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guodian United Power Technology Co., Ltd. 國電聯合動力技術有限公司	The PRC 中國	RMB2,137,527,100 人民幣2,137,527,100	70%	70%	-	Research and development and sale of wind turbine technology 風力機技術的研發與銷售
Guodian United Power Technology (Baoding) Co., Ltd. 國電聯合動力技術(保定)有限公司	The PRC 中國	RMB220,000,000 人民幣220,000,000	70%	-	100%	Production and sale of wind turbine 風力機的生產與銷售
Guodian United Power Technology (Lianyungang) Co., Ltd. 國電聯合動力技術(連雲港)有限公司	The PRC 中國	RMB150,000,000 人民幣150,000,000	70%	-	100%	Production and sale of wind turbine 風力機的生產與銷售
Guodian United Power Technology (Chifeng) Co., Ltd. 國電聯合動力技術(赤峰)有限公司	The PRC 中國	RMB115,000,000 人民幣115,000,000	70%	-	100%	Production and sale of wind turbine 風力機的生產與銷售
Guodian Solar Co., Ltd. 國電光伏有限公司	The PRC 中國	RMB2,157,136,900 人民幣2,157,136,900	100%	100%	-	Production and sale of solar cells 太陽能電池的銷售
Guodian Solar System Technology (Shanghai) Co., Ltd. (Note (ii)) 國電太陽能系統科技(上海)有限公司(附註ii)	The PRC 中國	RMB20,000,000 人民幣20,000,000	50%	-	50%	Construction of solar power generation system 太陽能發電系統的施工建設
Guodian Longyuan Power Technology and Engineering Co., Ltd. 國電龍源電力技術工程有限責任公司	The PRC 中國	RMB244,727,000 人民幣244,727,000	100%	100%	-	Provision of energy conservation engineering services 提供節能工程服務



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 18 INVESTMENTS IN SUBSIDIARIES (CONTINUED)

### 18 對附屬公司的投資(續)

Name of the company 公司名稱	Place of establishment/ incorporation 成立/註冊地	Issued and fully paid-up capital 已發行且全部 繳足的資本	Proportion of ownership interest 所有者權益比例			Principal activities 主營業務
			Group's effective interest 本集團的 有效權益	Held by the Company 由本公司 持有	Held by subsidiaries 附屬公司 持有	
Guodian Longyuan Energy Saving Technology Co., Ltd. 國電龍源節能技術有限公司	The PRC 中國	RMB100,000,000 人民幣100,000,000	100%	-	100%	Provision of energy conservation engineering services 提供節能工程服務
Beijing Long Wei Power Generation Technology Co., Ltd. 北京龍威發電技術有限公司	The PRC 中國	RMB40,000,000 人民幣40,000,000	60%	-	60%	Production and sale of steam turbine 汽輪機的生與銷售
Yantai Longyuan Power Technology Co., Ltd. (Note (iii)) 煙台龍源電力技術股份有限公司(附註iii)	The PRC 中國	RMB513,216,000 人民幣513,216,000	23.25%	23.25%	-	Production and sale of thermal energy equipment 熱能設備的生與銷售
Guodian Longyuan Technologies USA Corporation (Note (i)) (附註i)	United States 美國	USD2,000,000 美元2,000,000	23.25%	-	100%	Production and sale of igniters and other electric equipment 點火器及其他電氣設備的生與銷售
Beijing Huadian Tianren Power Controlling Technology Co., Ltd. 北京華電天仁電力控制技術有限公司	The PRC 中國	RMB 143,823,113 人民幣143,823,113	90%	90%	-	Production and sale of variable-pitch control system for wind turbine 風力發電機組變槳控制系統
Guodian Longyuan Electrical Co., Ltd. 國電龍源電氣有限公司	The PRC 中國	RMB14,932,900 人民幣14,932,900	51%	51%	-	Production and sale of wind turbine components 風力機的生與銷售
Beijing Guodian Zhishen Control Technology Co., Ltd. 北京國電智深控制技術有限公司	The PRC 中國	RMB53,900,000 人民幣53,900,000	53.15%	53.15%	-	Production and sale of electric power related products 電力及相關產品的生與銷售
Beijing Guodian Technology New Energy and Technology Co., Ltd. 北京國電科環新能源科技有限公司	The PRC 中國	RMB1,000,000 人民幣1,000,000	100%	100%	-	Research and development of technology 技術研發
Beijing Guodian Lantian Energy Saving Science and Technology Development Co., Ltd. ("Lantian Company") 北京國電藍天節能科技開發有限公司(「藍天公司」)	The PRC 中國	RMB30,000,000 人民幣30,000,000	100%	-	100%	Provision of energy conservation engineering services 提供節能工程服務



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 18 INVESTMENTS IN SUBSIDIARIES (CONTINUED)

Notes:

- (i) Except for Guodian Technology & Environment Group Hong Kong Corporation Limited and Guodian Longyuan Technologies USA Corporation, the English translation of the names of other entities is for identification only. The official names of these entities are in Chinese.
- (ii) The Group appointed and has the power to appoint the directors of the Company to govern the financial and operating policies of this company so as to obtain benefits from its activities since the establishment of this company.
- (iii) The Company is the biggest equity owner of this company and no other equity owners individually or in the aggregate had the power to control this company according to the articles of association. Historically, the Company controlled the operation of this company by appointing senior management, approving annual budget and determining the remuneration of employees, etc. The Company has agreements with certain shareholders of this company, whereby such equity owners have agreed to vote in concert with the Company since the establishment of this company. The PRC lawyer of the Company confirmed that these agreements are valid under relevant PRC laws. Considering the above mentioned factors, the directors are of the opinion that the Company controlled this company during the years presented.
- (iv) The following table lists out the information relating to subsidiaries of the Group which have material non-controlling interests ("NCI"). The summarised financial information presented below presents the amounts before any inter-company elimination.

### 18 對附屬公司的投資(續)

附註：

- (i) 除Guodian Technology & Environment Group Hong Kong Corporation Limited、Guodian Longyuan Technologies USA Corporation的英文名稱之外，其餘英文名稱僅用於識別之用，該等公司的正式名稱為中文名稱。
- (ii) 該公司成立以來，本集團即已任命了、並有權任命該公司的董事以支配該公司的財務與經營政策並從而自該公司的經營活動中取得收益。
- (iii) 本公司是該公司最大的權益所有者，根據該公司的公司章程，不存在個別地或集體地有能力控制該公司的其他權益所有者。在該公司歷史上，本公司通過任命高級管理人員、年度預算審批及確定僱員薪酬等，一直對該公司的經營享有控制權。自該公司成立以來，本公司與該公司的若干股東簽訂了協議，根據協議規定，此等股東同意與本公司投出一致的投票。本公司的中國律師確認，此等協議在中國法律項下具有效力。鑒於上述因素，董事們認為，在報告年限內，本公司對該公司具有控制權。
- (iv) 下表對本集團重大非控股權益的附屬公司相關信息進行了列明。下表列明的概要財務信息為公司間賬項抵銷前的金額。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 18 INVESTMENTS IN SUBSIDIARIES (CONTINUED)

### 18 對附屬公司的投資(續)

		Guodian United Power Technology Co., Ltd. (Note) 國電聯合動力技術有限公司 (附註)		Yantai Longyuan Power Technology Co., Ltd. 煙台龍源電力技術股份有限公司		Hanchuan Longyuan Boqi Environmental Technology Co., Ltd. 漢川龍源博奇環保科技有限公司	
		2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元	2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元
NCI percentage	非控股權益比例	30.00%	30.00%	76.75%	76.75%	30.00%	30.00%
Current assets	流動資產	9,726,808	9,464,501	2,167,066	2,290,348	83,274	78,947
Non-current assets	非流動資產	3,064,406	4,174,429	244,542	274,131	413,840	396,326
Current liabilities	流動負債	(8,306,241)	(9,277,489)	(455,911)	(629,140)	(238,146)	(214,387)
Non-current liabilities	非流動負債	(1,336,038)	(1,198,997)	(18,503)	(13,983)	(26,000)	(91,000)
Net assets	資產淨額	3,148,935	3,162,444	1,937,194	1,921,356	232,968	169,886
Carrying amount of NCI	非控股權益賬面金額	960,319	978,191	1,462,780	1,474,641	69,890	50,966
Revenue	收入	4,424,818	7,585,323	586,825	469,390	211,270	128,664
Profit/(loss) and total comprehensive income for the year	本年度利潤/(虧損)與綜合收益總額	6,071	190,620	14,321	(200,815)	107,581	46,814
Profit/(loss) allocated to NCI	分配予非控股權益的利潤/(虧損)	2,407	(10,093)	10,092	(154,126)	32,274	14,044
Dividend paid to NCI	支付予非控股權益的股息	-	10,500	-	-	-	-
Cash (out)/in flows from operating activities	經營活動的現金流(出)/入	(402,209)	23,638	(74,875)	227,375	153,308	140,053
Cash in/(out) flows from investing activities	投資活動的現金流入/(出)	335,567	(34,314)	582,058	532,757	(45,793)	(56,931)
Cash (out)/in flows from financing activities	融資活動的現金流(出)/入	(85,663)	83,286	-	-	(74,749)	(96,087)

Note:

The summarised financial information presents consolidated financial information of Guodian United Power Technology Co., Ltd.

附註：

匯總財務信息列示了國電聯合動力技術有限公司的合併財務信息。

### 19 INTERESTS IN ASSOCIATES

### 19 對聯營公司的投資

		2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元
Share of net assets	應佔資產淨值	418,752	411,601
Amounts due from associates	聯營公司之欠款	1,200	1,200
		419,952	412,801

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 19 INTERESTS IN ASSOCIATES (CONTINUED)

The following list contains only the particulars of material associates, all of which are unlisted corporate entities whose quoted market price is not available and established in the PRC, which principally affected the results or assets of the Group as at 31 December 2017:

### 19 對聯營公司的投資(續)

下表僅列出了對本集團2017年12月31日的業績或資產具有主要影響的重大聯營公司的詳情，所有這些公司均為沒有市場報價的未掛牌上市公司，並成立於中國。

Name of the company 公司名稱	Place of establishment/ incorporation 成立地	Issued and fully paid-up capital 已發行且全部繳足 的資本	Group's effective interest 本集團的有效權益	Proportion of ownership interest 所有者權益比例		
				Held by the Company 由本公司持有	Held by subsidiaries 由附屬公司持有	Principal activities 主營業務
Guizhou Longyuan Wongfu Environment Technology Co., Ltd. ("Guizhou Longyuan") (Note (ii)) 貴州龍源壹福環保科技有限公司(「貴州龍源」)(附註(ii))	The PRC 中國	RMB250,000,000 人民幣250,000,000	55%	-	55%	Operation of environmental protection facilities 環保設施運行
Guodian Longyuan Environmental Taizhou Co., Ltd. 國電龍源環保泰州有限公司	The PRC 中國	RMB180,000,000 人民幣180,000,000	45%	-	45%	Operation of environmental protection facilities 環保設施運行
Guodian United Power Technology (Baotou) Co., Ltd. ("Baotou Company") (Note (iii)) 國電聯合動力技術(包頭)有限公司(「包頭公司」)(附註(iii))	The PRC 中國	RMB260,000,000 人民幣260,000,000	38.77%	-	55.38%	Production and sale of gear 風力發電機的生產和銷售

#### Notes:

- (i) The English translation of the names is for identification only. The official names of these entities are in Chinese.
- (ii) According to the articles of association of Guizhou Longyuan, the resolutions in relation to material financial and operating decisions have to be passed by three-fourth of directors. As the Company only has rights to appoint less than three-fourth of directors of Guizhou Longyuan, the Company does not have power to control the financial and operating policies of Guizhou Longyuan although the Company owns more than half of equity interests and voting power in Guizhou Longyuan.
- (iii) According to the articles of association of Baotou Company, the resolutions in relation to material financial and operating decisions have to be passed by two-third of voting power of shareholders. As the Company has less than two-third of voting power of Baotou Company, the Company does not have power to control the financial and operating policies of Baotou Company although the Company owns more than half of equity interests and voting power in Baotou Company.

#### 附註：

- (i) 英文名稱僅用於識別之用，這些公司的正式名稱均為中文名稱。
- (ii) 根據貴州龍源的公司章程，有關重大財務和經營決策的決議必須由四分之三的董事通過。雖然本公司擁有貴州龍源一半以上股權和表決權，但由於本公司僅有權委任貴州龍源不足四分之三的董事，故本公司對貴州龍源重大財務和經營政策無控制權。
- (iii) 根據包頭公司的公司章程，有關重大財務和經營決策的決議必須由三分之二有表決權的股東通過。雖然本公司有用包頭公司一半以上股權和表決權，但由於本公司擁有少於三分之二表決權，因此本公司對包頭公司重大財務和經營政策無控制權。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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#### 19 INTERESTS IN ASSOCIATES (CONTINUED)

#### 19 對聯營公司的投資(續)

Summarised financial information of the material associates, adjusted for any differences in accounting policies, and reconciled to the carrying amounts in the consolidated financial statements, are disclosed below:

重大聯營公司的概要財務信息(已因應會計政策的差異進行了調整，並調節至合併財務報表的賬面金額)披露如下：

		Guizhou Longyuan Wengfu Environment Technology Co., Ltd. 貴州龍源益福環保科技有限公司		Guodian Longyuan Environmental Taizhou Co., Ltd. 國電龍源環保泰州有限公司		Guodian United Power Technology (Baotou) Co., Ltd. 國電聯合動力技術(包頭)有限公司	
		2017	2016	2017	2016	2017	2016
		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
<b>Gross amounts of the associates:</b>	<b>聯營公司總額：</b>						
Current assets	流動資產	179,511	207,877	116,351	211,822	138,884	326,791
Non-current assets	非流動資產	463,825	1,037,703	605,685	650,533	204,926	315,411
Current liabilities	流動負債	(1,449,500)	(1,471,866)	(54,723)	(153,661)	(1,039,143)	(927,360)
Non-current liabilities	非流動負債	-	-	(165,261)	(238,444)	-	-
Equity	權益	(806,164)	(226,286)	502,052	470,250	(695,333)	(285,158)
Revenue	收入	8,102	74,173	445,635	503,571	-	14,904
(Loss)/profit and total comprehensive income for the year	本年度(虧損)/利潤與綜合收益總額	(572,859)	(190,427)	206,919	198,492	(410,175)	(266,549)
Dividend received from the associates	已收聯營公司之股息	-	-	80,389	33,426	-	-
<b>Reconciled to the Group's interests in the associates:</b>	<b>調節至本集團對聯營公司的投資：</b>						
Gross amounts of net assets of the associates (Note)	聯營公司淨資產總額(附註)	(806,164)	(226,286)	502,052	470,250	(695,333)	(285,158)
Group's effective interest	本集團實際權益	55%	55%	45%	45%	38.77%	38.77%
Group's share of net (liabilities)/assets of the associates	本集團應佔聯營公司淨(負債)/淨資產	(443,390)	(124,457)	225,923	213,198	(269,581)	(110,556)
Unrecognised share of losses	未確認的虧損	443,390	124,457	-	-	269,581	110,556
Elimination of unrealised profits on downstream sales	順流交易未實現利潤的抵銷	-	-	(8,844)	(10,366)	-	-
Carrying amount in the consolidated financial statements	於合併財務報表的賬面金額	-	-	217,079	202,832	-	-

Note:

The Company paid up the first tranche of paid-in capital of Guodian Taizhou in December 2016 while the other equity owners paid up in January 2017. There is an adjustment on the timing difference for the presentation of the disclosure above.

附註：

本公司於2016年12月支付了國電泰州第一期實收資本，其他權益所有者已於2017年1月支付。以上披露存在對時差的調整。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 19 INTERESTS IN ASSOCIATES (CONTINUED)

Aggregate information of associates that are not individually material:

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元
Aggregate carrying amount of individually immaterial associates in the consolidated financial statements	在合併財務報表中個別非重大聯營公司的合計賬面金額	<b>201,673</b>	208,769
Aggregate amounts of the Group's share of those associates (loss)/profit and total comprehensive income	本集團應佔此等聯營公司的合計金額(虧損)/利潤	<b>(6,380)</b>	9,097

Four associates of the Group are loss making and the Group's share of the accumulated losses of those associates has exceeded its interest in the associates. In accordance with the accounting policy set out in Note 2(f), the Group discontinued to recognise its share of losses of the associates. The current year unrecognised share of losses of associates equals or exceeds its interest in the associates is RMB474,080,000 (2016: RMB226,703,000). The accumulated unrecognised share of losses of associates as at the end of the reporting period is RMB802,387,000 (2016: RMB328,307,000).

本集團四家聯營公司目前處於虧損狀態，本集團應佔該聯營公司的累積虧損已超過本集團對該聯營公司的投資。根據附註2(f)中列明的會計政策，本集團已不再確認其在該聯營公司中的虧損份額。本年度對該聯營公司的未確認虧損份額超過或等於對該聯營公司的投資的金額為人民幣474,080,000元(2016年：人民幣226,703,000元)。於報告期末累計對該聯營公司的未確認虧損份額為人民幣802,387,000元(2016年：人民幣328,307,000元)。

### 20 OTHER EQUITY INVESTMENTS

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元
Unlisted equity securities, at cost	非上市權益證券，按成本計算	<b>162,187</b>	162,187

### 19 對聯營公司的投資(續)

個別非重大聯營公司合計金額信息：

### 20 其他權益投資



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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#### 21 OTHER NON-CURRENT ASSETS

#### 21 其他非流動資產

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元
Long-term trade receivables due from: (Note (i))	長期應收賬款(附註(i))		
– related parties under Guodian	– 國電下屬的關聯方	<b>454,750</b>	685,607
– third parties	– 第三方	<b>109,451</b>	122,169
Less: current portion of long-term trade receivables	減：長期應收款的即期部分	<b>(168,295)</b>	(250,587)
		<b>395,906</b>	557,189
Long-term service concession receivables due from third parties (Note (ii))	應收第三方服務特許權長期應收款項(附註(ii))	<b>1,114,173</b>	1,149,811
Less: current portion of long-term service concession receivables	減：服務特許權長期應收款項的即期部分	<b>(49,475)</b>	(45,059)
		<b>1,064,698</b>	1,104,752
Long-term receivables from a third party (Note (iii))	應收第三方的長期應收款項(附註(iii))	<b>385,714</b>	–
Less: current portion of long-term advance	減：長期墊付款的即期部分	<b>(110,019)</b>	–
		<b>275,695</b>	–
Long-term retention receivables due from: (Note (iv))	長期應收質保金款項(附註(iv))		
– related parties under Guodian	– 國電下屬的關聯方	<b>606,434</b>	541,272
– third parties	– 第三方	<b>1,039,992</b>	1,733,621
		<b>1,646,426</b>	2,274,893
Long-term loan to a third party (Note (v))	提供給第三方的長期貸款(附註(v))	<b>14,926</b>	14,926
Non-current financial assets	非流動金融資產	<b>3,397,651</b>	3,951,760
Long-term prepayments	長期預付款	<b>4,777</b>	6,915
Deductible VAT (Note (vi))	可抵扣增值稅(附註(vi))	<b>74,853</b>	46,294
		<b>3,477,281</b>	4,004,969
Less: allowance for doubtful debts	減：壞賬撥備	<b>(171,175)</b>	–
		<b>3,306,106</b>	4,004,969



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 21 OTHER NON-CURRENT ASSETS (CONTINUED)

Notes:

- (i) Long-term trade receivables represent trade receivables of certain construction contracts which are repayable by instalments over a 3 to 8 years period.
- (ii) Long-term service concession receivables due from third parties represent the amounts contractually and unconditionally receivables in connection with construction services under concession arrangements (Note 41).
- (iii) The balances represented receivables from a former subsidiary, disposed during the year ended 31 December 2017. The receivables are interest-free and repayable before 2020.
- (iv) Long-term retention receivables represent retentions of sales of wind turbines which will be received when the retention period elapses.
- (v) Long-term loan to a third party represents an unsecured interest-free loan to a third party which is repayable by instalments from 2017 to 2034.
- (vi) Deductible VAT represents the input VAT in excess of output VAT. Input VAT is recognised for the purchase of manufacturing raw materials and components and acquisitions of machinery and equipment used for operation. Input VAT will be deductible from output VAT payable for goods to be sold in subsequent years.
- (vii) All non-current financial assets of the Group are not past due.
- (viii) As at 31 December 2017, long-term service concession receivables of the Group amounting to RMB540,110,000 (2016: RMB516,728,000) was pledged as collateral for bank loans (see Note 29).

### 21 其他非流動資產(續)

附註：

- (i) 長期應收賬款指在3-8年期內分期償付的若干建造合同項下的應收賬款。
- (ii) 應收第三方服務特許權長期應收款項指與特許經營安排下的建造服務相關之約定及無條件應收款項(附註41)。
- (iii) 該餘額為應收一家於截至2017年12月31日止年度處置的前附屬公司的應收賬款。該應收賬款是無息的，將於2020年前償還。
- (iv) 長期應收質保金款項指質保期滿之後將收回的風力機銷售質保金款項。
- (v) 提供給第三方的長期貸款為借予第三方的無抵押的不帶息非流動貸款，該筆貸款將於2016年至2034年分期償還。
- (vi) 可抵扣增值稅指進項增值稅超過銷項增值稅的部分。進項增值稅於購買生產用原材料和部件以及購買經營用機器及設備時確認。進項增值稅可從後續年度出售貨物應支付的銷項增值稅中抵扣。
- (vii) 本集團的所有非流動金融資產均未逾期。
- (viii) 截至2017年12月31日，為取得銀行借款作為抵押物進行擔保的服務特許權長期應收款項人民幣540,110,000元(2016年：人民幣516,728,000元)(見附註29)。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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## 22 INVENTORIES

## 22 存貨

(a) Inventories in the consolidated statement of financial position comprises:

(a) 合併財務狀況表中的存貨包括：

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
Raw materials	原材料	1,179,231	749,549
Work in progress	在產品	493,186	514,401
Finished goods	產成品	1,456,821	1,464,210
Spare parts	備件	16,176	5,092
		<b>3,145,414</b>	2,733,252

(b) The analysis of the amount of inventories recognised as an expense and included in the consolidated statement of profit or loss is as follows:

(b) 在合併損益表中確認為費用的存貨金額如下：

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
Carrying amount of inventories sold	售出存貨的賬面金額	3,947,993	6,795,457
Write down of inventories	存貨撇減	1,612	22,022
		<b>3,949,605</b>	6,817,479

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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#### 23 GROSS AMOUNTS DUE FROM/TO CUSTOMERS FOR CONTRACT WORK      23 應收／應付建造合同客戶款項總額

		2017 <b>RMB'000</b> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
Contract costs incurred plus recognised profits less recognised losses in connection with construction contracts in progress	在建中建造合同已發生合同成本加已確認利潤減已確認的損失	<b>28,636,929</b>	28,828,972
Less: progress billings	減：工程進度款	<b>(28,235,270)</b>	(28,408,232)
		<b>401,659</b>	420,740
Gross amounts due from customers for contract work (Notes (ii) and (iii))	應收建造合同客戶款項總額 (附註(ii)與(iii))	<b>1,324,257</b>	1,443,384
Gross amounts due to customers for contract work (Note (iv))	應付建造合同客戶款項總額 (附註(iv))	<b>(922,598)</b>	(1,022,644)
		<b>401,659</b>	420,740

**Notes:**

- (i) Gross amounts due from customers for contract work represent unbilled revenue for contract work and are presented as assets in the consolidated statement of financial position. Gross amounts due to customers for contract work represent the amounts billed in advance of the contract work delivered and are presented as liabilities in the consolidated statement of financial position.
- (ii) The gross amounts due from customers for contract work of the Group include amounts of RMB809,042,000 (2016: RMB696,133,000) due from related parties under Guodian and an associate.
- (iii) As at 31 December 2017, except for amounts of RMB77,897,000 (2016: RMB74,861,000) which are payable to the Group after the retention period of construction contracts, all of the remaining gross amounts due from customers for contract work of the Group are expected to be recovered within one year.
- (iv) Included in the gross amounts due to customers for contract work are amounts of RMB603,916,000 (2016: RMB676,195,000) due to related parties under Guodian and an associate.

**附註：**

- (i) 應收建造合同客戶款項總額指合同工程項下未發賬單的收入，在合併財務狀況表列為資產。應付建造合同客戶款項總額指已發賬單金額多於已完成工程的金額，在合併財務狀況表內列為負債。
- (ii) 本集團應收建造合同客戶款項總額包括應從國電下屬的關聯方及聯營公司收取的款項人民幣809,042,000元(2016年：人民幣696,133,000元)。
- (iii) 於2017年12月31日，除建造合同項下的質保期滿之後應付給本集團的人民幣77,897,000元(2016年：人民幣74,861,000元)之外，本集團應收建造合同客戶款項總額的所有剩餘賬款，預計將在一年之內收回。
- (iv) 包括在應付建造合同客戶款項總額之內的應支付給國電下屬的關聯方及聯營公司的款項為人民幣603,916,000元(2016年：人民幣676,195,000元)。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 24 TRADE AND BILLS RECEIVABLES

### 24 應收賬款及票據

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
Trade receivables for contract work due from:	合同工程的應收賬款：		
– related parties under Guodian	– 國電下屬的關聯方	<b>1,991,821</b>	1,824,487
– associates	– 聯營公司	<b>14,018</b>	43,418
– third parties	– 第三方	<b>3,005,343</b>	3,259,600
		<b>5,011,182</b>	5,127,505
Bills receivable for contract work due from:	合同工程的應收票據：		
– related parties under Guodian	– 國電下屬的關聯方	<b>693,548</b>	1,664,723
– third parties	– 第三方	<b>209,639</b>	228,836
		<b>903,187</b>	1,893,559
Trade receivables for operating leases due from:	經營租賃的應收賬款：		
– related parties under Guodian	– 國電下屬的關聯方	<b>76,066</b>	110,933
– third parties	– 第三方	<b>24,576</b>	33,511
		<b>100,642</b>	144,444
Trade receivables for sale of goods and rendering of services due from: (Note (iii))	銷售商品及提供服務的應收賬款： (附註(iii))		
– Guodian	– 國電	<b>2,908</b>	740
– related parties under Guodian	– 國電下屬的關聯方	<b>2,302,395</b>	3,130,531
– associates	– 聯營公司	<b>38,439</b>	27,789
– third parties	– 第三方	<b>4,676,340</b>	4,906,013
		<b>7,020,082</b>	8,065,073
Bills receivable for sale of goods and rendering of services due from:	銷售商品及提供服務的應收票據：		
– related parties under Guodian	– 國電下屬的關聯方	<b>800,179</b>	263,058
– third parties	– 第三方	<b>1,023,246</b>	634,971
		<b>1,823,425</b>	898,029
Less: allowance for doubtful debts	減：壞賬撥備	<b>14,858,518</b> <b>(2,015,720)</b>	16,128,610 (2,059,577)
		<b>12,842,798</b>	14,069,033

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 24 TRADE AND BILLS RECEIVABLES (CONTINUED)

Notes:

- (i) Trade and bills receivables of the Group include bills discounted to banks or endorsed to suppliers and factored trade receivables with recourse totalling RMB253,423,000 (2016: RMB328,252,000). These receivables were not derecognised as the Group remains exposed to the credit risk of these receivables. The carrying amount of the associated bank loans and trade payables amounted to RMB253,423,000 (2016: RMB328,252,000). As at 31 December 2017, the fair value of the transferred assets and the associated liabilities is the same as their carrying amount with the net position of RMBNil (2016: RMBNil).
- (ii) As at 31 December 2017, trade receivables of the Group amounting to RMB84,110,000 (2016: RMB2,989,000) were pledged as collateral for interest-bearing bank loans and other borrowings (see Note 29).

All trade and bills receivables (net of impairment losses for doubtful debts) of the Group are expected to be recovered within one year.

#### (a) Ageing analysis

As of the end of the reporting period, the ageing analysis of trade and bills receivables, based on invoice date (or date of revenue recognition, if earlier) and net of allowance for doubtful debts of the Group is as follows:

		<b>2017</b>	2016
		<b>RMB'000</b>	RMB'000
		人民幣千元	人民幣千元
			(restated)
			(重述)
Within 1 year	1年內	<b>8,554,641</b>	9,665,169
Between 1 to 2 years	1至2年內	<b>2,156,939</b>	3,580,045
Between 2 to 3 years	2至3年內	<b>1,862,106</b>	629,585
Over 3 years	3年以上	<b>269,112</b>	194,234
		<b>12,842,798</b>	14,069,033

Trade receivables are required to be settled in accordance with contracted terms and are generally due immediately without credit upon the issuance of invoice. Further details on the Group's credit policy are set out in Note 37(a).

### 24 應收賬款及票據(續)

附註：

- (i) 本集團的應收賬款及票據包括貼現給銀行或背書轉讓給供貨商的票據，以及帶追索權的應收賬款保理，總額為人民幣253,423,000元(2016年：人民幣328,252,000元)。這些應收賬款和票據未被中止確認，因為本集團仍對這些應收賬款和票據具有信用風險。相關銀行貸款及應付賬款的賬面金額為人民幣253,423,000元(2016年：人民幣328,252,000元)。於2017年12月31日，轉讓資產的公允價值及關聯負債與其賬面金額相同，淨差額為人民幣零元(2016年：人民幣零元)。
- (ii) 於2017年12月31日，本集團作為帶息銀行貸款及其他借款押物而質押的應收賬款為人民幣84,110,000元(2016年：人民幣2,989,000元)(見附註29)。

本集團所有應收賬款與票據(扣除壞賬的減值虧損)預計將於一年之內收回。

#### (a) 賬齡分析

於報告期末，本集團與本公司基於開立發票日期(或收入確認日，兩者孰早)的應收賬款及票據(扣除壞賬撥備)的賬齡分析如下：

應收賬款按照合同條款支付，一般不設信用限期並於出具發票當日立即到期。關於本集團信用政策的詳細說明，參見附註37(a)。



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 24 TRADE AND BILLS RECEIVABLES (CONTINUED)

### 24 應收賬款及票據(續)

#### (b) Impairment of trade and bills receivables

Impairment losses in respect of trade and bills receivables are recorded using an allowance account unless the Group is satisfied that recovery of the amount is remote, in which case the impairment loss is written off against trade and bills receivables directly (see Note 2(n)(i)).

The movement in the allowance for doubtful debts during the year, including both specific and collective loss components, is as follows:

#### (b) 應收賬款及票據的減值

應收賬款及票據的減值虧損將被記入撥備賬，除非本集團認為幾乎不可能收回該款項，在此情形之下，則直接將此等應收賬款及票據與減值虧損衝銷(見附註2(n)(i))。

本年度個別和整體的壞賬撥備的變動如下：

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
At 1 January	於1月1日	<b>2,059,577</b>	2,308,815
Impairment losses recognised	確認的減值虧損	<b>384,378</b>	472,067
Reversal of impairment losses	減值虧損轉回	<b>(348,501)</b>	(521,323)
Uncollectible amounts written-off	不可收回款項核銷	<b>(79,734)</b>	(196,957)
Disposal of subsidiaries	出售附屬公司	-	(3,025)
At 31 December	於12月31日	<b>2,015,720</b>	2,059,577

The Group's trade and bills receivables of RMB2,822,430,000 (2016: RMB2,719,081,000 (restated)) were individually determined to be impaired. The individually impaired receivables primarily related to customers from the discontinued solar power products and services segment who have unsatisfactory track records of repayment. Management decided to discontinue the business relationships with these customers and expected the receivables from these customers cannot be fully recovered. The remaining individually impaired receivables related to customers that were in financial difficulties and management assessed that the receivables are expected to be unrecoverable. Consequently, specific allowances for doubtful debts of RMB1,341,272,000 (2016: RMB1,490,657,000) from the discontinued solar power products and services segment and RMB661,692,000 (2016: RMB553,010,000 (restated)) from other segments were recognised by the Group as at 31 December 2017. Specific allowance for doubtful debts of RMB73,691,000 (2016: RMB213,377,000) from the discontinued solar power products and services segment and RMB297,931,000 (2016: RMB242,780,000) from other segments were recognised by the Group during the year ended 31 December 2017.

本集團已個別評定為已減值的應收賬款及票據為人民幣2,822,430,000元(2016年：人民幣2,719,081,000元(重述))。已減值應收賬款主要與已終止經營的太陽能產品和服務分部中具有不良償債記錄的客戶有關。管理層決定終止與這些客戶的業務關係，且預計無法從這些客戶手中全額收回應收賬款。其餘的個別減值應收賬款與有財務困難之客戶有關，管理層估計這些減值應收賬款預期將無法收回。因此，截止2017年12月31日，公司已確認特定壞賬撥備為：已終止經營的太陽能產品和服務分部人民幣1,341,272,000元(2016年：人民幣1,490,657,000元)，其他分部的人民幣661,692,000元(2016年：人民幣553,010,000元)。於截至2017年12月31日止的年度，公司確認的特定壞賬撥備為：已終止經營的太陽能產品和服務分部的人民幣73,691,000元(2016年：人民幣213,377,000元)，其他分部的人民幣297,931,000元(2016年：人民幣242,780,000元)。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 24 TRADE AND BILLS RECEIVABLES (CONTINUED)

### 24 應收賬款及票據(續)

#### (c) Trade and bills receivables that are not impaired

The ageing analysis of trade and bills receivables that are neither individually nor collectively considered to be impaired are as follows:

#### (c) 並無減值的應收賬款及票據

個別或整體而言均被認為並無減值的應收賬款和票據賬齡分析如下：

		<b>2017</b>	2016
		<b>RMB'000</b>	RMB'000
		人民幣千元	人民幣千元
			(restated)
			(重述)
Neither past due nor impaired	既未逾期亦無減值	<b>2,726,612</b>	3,042,176
Within 1 year	1年內	<b>5,656,608</b>	6,377,849
Between 1 to 2 years	1至2年	<b>1,929,329</b>	3,260,584
Between 2 to 3 years	2至3年	<b>1,465,904</b>	512,766
Over 3 years	3年以上	<b>220,543</b>	187,932
		<b>9,272,384</b>	10,339,131
		<b>11,998,996</b>	13,381,307

Aged receivables that were not impaired relate to a wide range of customers for whom there were no recent history of default and have a good track record with the Group. Based on past experience, management believes that no impairment allowance is necessary in respect of these balances as there has not been a significant change in credit quality and the balances are still considered fully recoverable. The Group does not hold any collateral over these balances.

未產生減值的長賬齡應收賬款與眾多客戶相關，該等客戶最近沒有違約歷史，與本集團一直保持良好的事務歷史記錄。根據過往經驗，管理層相信，該等餘額無須計提減值撥備，因信用質量未發生重大變動，並且這些結餘仍被視為可以全數收回。本集團並未對上述餘額持有押物。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)

(除非另有說明，以人民幣列示)



## 25 DEPOSITS, PREPAYMENTS AND OTHER RECEIVABLES 25 按金、預付款項及其他應收款項

		2017 <b>RMB'000</b> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
Prepayments to sub-contractors ( <i>Note (i)</i> )	支付給分包商的預付款(附註(i))		
– related parties under Guodian	– 國電下屬的關聯方	<b>40,114</b>	7,117
– third parties	– 第三方	<b>722,787</b>	488,575
Prepayments for purchase of inventories	採購存貨的預付款		
– related parties under Guodian	– 國電下屬的關聯方	<b>144</b>	410
– third parties	– 第三方	<b>120,311</b>	244,970
Deposits for construction contracts' bidding or performance ( <i>Note (ii)</i> )	建造合同的投標或履約保證金(附註(ii))		
– related parties under Guodian	– 國電下屬的關聯方	<b>47,987</b>	73,305
– third parties	– 第三方	<b>71,113</b>	117,006
Other deposits	其他按金	<b>4,442</b>	3,959
Advances to staff	給員工的墊款	<b>10,683</b>	19,559
Advances to	墊款		
– associates ( <i>Note (iii)</i> )	– 聯營公司(附註(iii))	<b>230,877</b>	736,081
– third parties	– 第三方	<b>261,006</b>	60,299
Interest receivables	應收利息自		
– associates	– 聯營公司	<b>117,184</b>	115,841
– related parties under Guodian	– 國電下屬的關聯方	<b>19,836</b>	9,752
– third parties	– 第三方	–	1,343
Dividends receivables	應收股息自		
– related parties under Guodian	– 國電下屬的關聯方	<b>4,500</b>	4,400
Consideration receivables for the disposals of subsidiaries and an associate from	應收處置附屬公司及聯營公司的對價		
– related parties under Guodian	– 國電下屬的關聯方	<b>266,264</b>	100,000
– a third party	– 第三方	<b>96,401</b>	–
Consideration receivables for the disposals of property, plant and equipment	應收出售物業、廠房及設備的款項		
– an associate	– 聯營公司	<b>381,260</b>	332,423
– related parties under Guodian	– 國電下屬的關聯方	<b>189,952</b>	384,908
– third parties	– 第三方	–	716
Compensation receivables	應收賠償款	–	127,536
Current portion of other non-current assets ( <i>Note 21(iii)</i> )	其他非流動資產的即期部分(附註21(iii))	<b>110,019</b>	–
Others	其他	<b>84,234</b>	107,456
		<b>2,779,114</b>	2,935,656
Less: allowance for doubtful debts	減：壞賬撥備	<b>(777,916)</b>	(535,294)
		<b>2,001,198</b>	2,400,362

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 25 DEPOSITS, PREPAYMENTS AND OTHER RECEIVABLES (CONTINUED)

Notes:

- (i) The balances represent prepayments to the sub-contractors in connection with the Group's construction contracts. The prepayments will be settled upon the delivery of goods and services by the sub-contractors.
- (ii) The balances represent deposits placed with customers for contracts bidding or performance of contracts in progress. The deposits will be released to the Group upon the completion of the related bidding or contract work, where applicable.
- (iii) Advances to an associate of RMB17,504,000 (2016: RMB577,039,000) as at 31 December 2017 are unsecured, bear interest rates from 4.80% to 6.60% (2016: from 4.35% to 6.60%) per annum, and are repayable within one year.

All other advances to associates are unsecured, interest-free and repayable on demand.

#### (a) Impairment of deposits, prepayments and other receivables

Impairment of deposits, prepayments and other receivables are recorded using an allowance account unless the Group is satisfied that recovery of the amount is remote, in which case the impairment loss is written off against deposits, prepayments and other receivables directly (Note 2(n)(i)).

The movement in the allowance for bad and doubtful accounts during the year, including both specific and collective loss components, is as follows:

### 25 按金、預付款項及其他應收款項(續)

附註：

- (i) 該款項指關於本集團的建造合同而向分包商支付的預付款。分包商交付貨物及服務之後，則將對預付款結算。
- (ii) 該款項是關於合同投標或合同履約而支付給客戶的保證金。相關投標或合同工程完工之後，該保證金則將返還給本集團。
- (iii) 於2017年12月31日，給聯營公司的墊款人民幣17,504,000元(2016年：人民幣577,039,000元)，年息率為4.80%至6.60%(2016年：4.35%至6.60%)，無抵押，要求在一年內償還；

除此之外，所有其他給聯營公司的墊款均無抵押、不帶息且提出要求之後即應立即還款。

#### (a) 按金、預付款項及其他應收款項的減值

按金、預付款項以及其他應收款項的減值記入撥備賬，除非本集團認為幾乎不可能收回該款項，在此情形之下，則直接將此等按金、預付款項及其他應收款項與減值虧損衝銷(見附註2(n)(i))。

本年度個別和整體呆壞賬撥備的變動如下：

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
At 1 January	於1月1日	535,294	473,705
Impairment losses recognised	確認的減值虧損	273,039	113,506
Reversal of impairment losses	減值虧損轉回	(30,232)	(47,091)
Reclassification as assets held for sale	重分類為持有待售	(185)	(4,826)
At 31 December	於12月31日	777,916	535,294

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



#### 25 DEPOSITS, PREPAYMENTS AND OTHER RECEIVABLES (CONTINUED)

The Group's deposits, prepayments and other receivables of RMB853,799,000 (2016: RMB1,312,127,000 (restated)) were individually determined to be impaired. The individually impaired receivables included receivables from a few debtors whose operation and financial condition continued to deteriorate and management assessed that the recoverability of the receivables is doubtful. Consequently, specific allowances for doubtful debts of RMB777,448,000 (2016: RMB534,913,000 (restated)) were recognised by the Group as at 31 December 2017 and RMB272,952,000 (2016: RMB113,224,000 (restated)) were recognised during the year ended 31 December 2017.

For other balances of deposits, prepayments and other receivables, directors of the Company are of the opinion that the counterparties are with good credit quality and the balances are considered fully recoverable.

#### 26 RESTRICTED DEPOSITS

Restricted deposits mainly represent guarantee deposits, cash pledged as collateral for bills payable and loans and blocked deposits. All of deposits are expected to be released within one year.

#### 27 CASH AT BANK AND IN HAND AND OTHER CASH FLOW INFORMATION

(a) Cash and cash equivalents comprise:

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
Cash in hand	庫存現金	55	61
Cash at bank	銀行存款	392,637	2,855,501
Cash at related parties under Guodian	於國電下屬的關聯方存放的現金	3,912,382	1,808,548
		<b>4,305,074</b>	4,664,110
Representing:	包括：		
– cash and cash equivalents	– 現金及現金等價物	3,994,074	4,443,102
– deposits with banks over three months of original maturity	– 初始到期日三個月以上的銀行存款	311,000	221,008
		<b>4,305,074</b>	4,664,110

#### 25 按金、預付款項及其他應收款項(續)

本集團已個別評定為已減值的按金、預付款項及應收款項為人民幣853,799,000元(2016年：人民幣1,312,127,000元(重述))。被評定為已減值的應收款項包括應收一些業務和財務狀況持續惡化的債務方，管理層評定認為該應收款項的回收性具有不確定性。因此，本集團針對壞賬撥備了人民幣777,448,000元(2016年：人民幣534,913,000元(重述))。

關於其他按金、預付款項及其他應收款項，公司董事認為，對方具有良好的信用質量，此類按金、預付款項及其他應收款項可以完全收回。

#### 26 受限制存款

受限制存款主要為保證金存款、應付票據和貸款的抵押現金以及凍結存款。所有受限制存款預計會在一年內解除限制。

#### 27 銀行存款、庫存現金及其他現金流量信息

(a) 現金及現金等價物組成：

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 27 CASH AT BANK AND IN HAND AND OTHER CASH FLOW INFORMATION (CONTINUED)

### 27 銀行存款、庫存現金及其他現金流量信息(續)

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

#### (b) 融資活動產生負債調節表

		Bank loans, other borrowings and interest payables 銀行貸款、 其他借款 及應付利息 RMB'000 人民幣千元 (Notes 29 and 31) (附註 29及31)	Private placement notes 私人配售 債務融資工具 RMB'000 人民幣千元 (Note 29) (附註29)	Corporate bonds 公司債券 RMB'000 人民幣千元 (Note 29) (附註29)	Total 總計 RMB'000 人民幣千元
At 1 January 2017	於2017年1月1日	8,330,621	2,441,370	2,843,245	13,615,236
<b>Changes from financing cash flows:</b>	<b>融資現金流變化：</b>				
Proceeds from bank loans and other borrowings	銀行貸款及其他借款所得	8,248,231	-	-	8,248,231
Repayment of bank loans and other borrowings	償還銀行貸款及其他借款	(9,288,100)	-	-	(9,288,100)
Repayment of corporate bonds	償還公司債券	-	-	(800,000)	(800,000)
Interest paid	支付利息	(340,224)	(103,700)	(140,200)	(584,124)
Total changes from financing cash flows	融資現金流變化總計	(1,380,093)	(103,700)	(940,200)	(2,423,993)
<b>Other changes:</b>	<b>其他費用：</b>				
Interest expenses (Note 6)	利息支出(附註6)	327,579	110,800	132,316	570,695
Capitalised borrowing costs (Note 6)	資本化貸款成本(附註6)	2,718	-	-	2,718
Disposal of a subsidiary	出售附屬公司	3,119	-	-	3,119
Total other changes	其他費用總計	333,416	110,800	132,316	576,532
At 31 December 2017	於2017年12月31日	7,283,944	2,448,470	2,035,361	11,767,775

Note: Bank loans, other borrowings and interest payables consist of bank loans, other loans from financial institutions, Guodian and a related party under Guodian and interest payables as disclosed in Notes 29 and 31.

附註：銀行貸款、其他借款和應付利息包括銀行貸款，來自金融機構的其他貸款，來自國電及國電下屬關聯方的其他貸款和應付利息，見附註29和31。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 28 NON-CURRENT ASSETS AND DISPOSAL GROUPS HELD FOR SALE

### 28 分類為持有待售的非流動資產和處置組

#### (a) Assets and liabilities of non-current assets and disposal groups held for sale

At 31 December 2017, the non-current assets and disposal groups held for sale were stated at the lower of carrying amount and fair value less costs to sell, comprising the following assets and liabilities:

#### (a) 持有待售的非流動資產和處置組的資產和負債

於2017年12月31日，持有待售的非流動資產和處置組以賬面金額和公允價值減去出售成本兩者中的孰低者確認，由以下資產及負債組成：

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
Property, plant and equipment	物業、廠房及設備	500,699	1,464,815
Lease prepayments	預付租賃款項	224,112	373,913
Other non-current assets	其他非流動資產	74,949	137,079
Trade and other receivables	應收及其他應收款項	31,957	360,298
Other current assets	其他流動資產	2,458	612,260
Less: inter-company receivables eliminated in the consolidated financial statements	減：於合併財務報表中對銷的公司間應收款項	<b>(21,716)</b>	(248,476)
<b>Assets held for sale</b>	<b>持有待售之資產</b>	<b>812,459</b>	2,699,889
Trade and other payables	應付及其他應付款項	62,320	1,310,789
Other current liabilities	其他流動負債	-	192,904
Other non-current liabilities	其他非流動負債	10,284	117,371
Less: inter-company payables eliminated in the consolidated financial statements	減：於合併財務報表中對銷的公司間應付款項	<b>(1,925)</b>	(424,770)
<b>Liabilities held for sale</b>	<b>持有待售之負債</b>	<b>70,679</b>	1,196,294
<b>Net assets held for sale</b>	<b>持有待售淨資產</b>	<b>741,780</b>	1,503,595

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 28 NON-CURRENT ASSETS AND DISPOSAL GROUPS HELD FOR SALE (CONTINUED)

### 28 分類為持有待售的非流動資產和處置組(續)

(b) The movements of assets and liabilities of non-current assets and disposal groups held for sale during the year are as follows:

(b) 本年持有待售非流動資產和處置組的資產及負債的變動如下顯示：

		2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元
<b>Assets</b>	<b>資產</b>		
As at 1 January	於1月1日	<b>2,699,889</b>	–
Transfer into assets held for sale during the year	轉入持有待售資產	<b>34,613</b>	2,820,658
Net decrease after reclassified as assets held for sale	重分類至持有待售資產後的淨減少	<b>(22,997)</b>	(2,756)
Decrease through disposals of subsidiaries and associates (Note 43)	出售附屬公司和聯營公司所產生的損失(附註43)	<b>(1,881,078)</b>	(95,232)
Impairment loss	減值損失	<b>(17,968)</b>	(9,059)
Decrease through disposals of non-current assets	處置非流動資產所產生的損失	–	(13,722)
As at 31 December	於12月31日	<b>812,459</b>	2,699,889
<b>Liabilities</b>	<b>負債</b>		
As at 1 January	於1月1日	<b>1,196,294</b>	–
Transfer into liabilities held for sale during the year	轉入持有待售負債	<b>8,556</b>	1,210,712
Net decrease after reclassified as liabilities held for sale	重分類至持有待售負債後的淨減少	<b>(15,797)</b>	(14,418)
Decrease through disposals of subsidiaries and associates (Note 43)	出售附屬公司和聯營公司所產生的損失(附註43)	<b>(1,118,374)</b>	–
As at 31 December	於12月31日	<b>70,679</b>	1,196,294

Notes:

附註：

(i) Pursuant to the announcement published by the Company on 3 May 2016 and 4 July 2016, the Company entered into a cooperation framework agreement and sale and purchase agreement with Tianjin Zhonghuan Semiconductor Co., Ltd. (“Zhonghuan”) to dispose 90% of equity interest in GD Solar to Zhonghuan. GD Solar will cease to be a subsidiary of the Company upon completion of the disposal. As at 31 December 2017, the disposal has not yet been completed as Zhonghuan is listed on the Shenzhen Stock Exchange and the completion of the disposal is subject to the approval of the China Securities Regulatory Commission (“CSRC”).

(i) 根據2016年5月3日及2016年7月4日發佈的公告，本公司與天津中環半導體股份有限公司(「中環」)訂立合作框架協定和買賣協議，根據協議本公司同意就本公司之全資附屬公司國電光伏重組資產及負債，並處置本公司對國電光伏之90%股權予中環達成合作。國電光伏將於該處置完成之時不再是本公司的附屬公司。於2017年12月31日，該處置組尚未完成，因為中環在深圳證券交易所掛牌上市，處置完成情況需要中國證券監管委員會(「中國證監會」)批准。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 28 NON-CURRENT ASSETS AND DISPOSAL GROUPS HELD FOR SALE (CONTINUED)

#### (b) The movements of assets and liabilities of non-current assets and disposal groups held for sale during the year are as follows: (continued)

Notes: (continued)

(i) (continued)

As at 9 February 2018, Zhonghuan received a notice from CSRC in respect of the failure of obtaining approval of the above transaction. As at 23 March 2018, Zhonghuan convened a board meeting and decided to resubmit the application for approval of the transaction to CSRC to address the concerns raised in the CSRC's notice. Based on all facts and circumstance, the directors of the Company are of the opinion that the completion of the sale is highly probable and expect the disposal will be completed in 2018.

Accordingly, all of the assets and liabilities of GD Solar, other than those that are not within the scope of disposal as set out in the agreements, have been classified as a disposal group held-for-sale in the consolidated financial statements.

The disposal group was measured at the lower of its carrying value and fair value less costs to sell. The fair value less costs to sell as at 31 December 2017 RMB715,723,000 was determined with reference to the appraised value evaluated by an independent valuer.

(ii) The above non-recurring fair value measurement for the non-current assets and disposal groups classified as held for sale as at 31 December 2017 has been categorised into Level 3 valuations with fair values hierarchy.

#### (c) Cumulative income or expenses include in other comprehensive income

There are no cumulative income or expenses included in other comprehensive income relating to the above non-current assets and disposal groups held for sale.

### 28 分類為持有待售的非流動資產和處置組(續)

#### (b) 本年持有待售非流動資產和處置組的資產及負債的變動如下顯示： (續)

附註：(續)

(i) (續)

於2018年2月9日，中環收到中國證監會關於未獲得上述交易批准的通知。於2018年3月23日，中環召開董事會，並決定重新向中國證監會提交批准該交易的申請，以便就通知中中國證監會提出的疑問做出解釋。基於所有事實和情況，本公司董事認為銷售的完成的機率是極高的，並且預期該處置將在2018年內完成。

因此，國電光伏除不在協議中出售範圍的全部資產和負債已在合併財務報表中作為一項持有待處置組列示。

處置組的價值以賬面價值及公允價值減去銷售成本孰低者確認。公允價值參照獨立估值師評估的評估價值確定，於2017年12月31日為人民幣715,723,000元。

(ii) 上述提及的在2017年12月31日被劃分為非流動資產和持有待售的處置資產的非經常性公允價值的計量被歸類為第三層級的公允價值。

#### (c) 計入其他綜合收益的累計收入或費用

本公司並無與此持有待售的非流動資產和處置組相關的計入其他綜合收益的累計收入或費用。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 29 BORROWINGS

### 29 借款

(a) The long-term interest-bearing borrowings comprise:

(a) 長期帶息借款包括：

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
Bank loans	銀行貸款		
– secured (Notes (i))	– 抵押(附註(i))	269,500	202,270
– unsecured	– 無抵押	160,200	337,631
Other loans from financial institutions (secured)	來自金融機構的其他貸款(抵押)	436,432	508,129
Other loans from a related party under Guodian (secured)	來自國電下屬的關聯方的其他貸款(抵押)	186,526	97,000
Private placement notes (unsecured) (Notes (iii))	私人配售債務融資工具(無抵押)(附註(iii))	2,448,470	2,441,370
Corporate bonds (Note (ii))	公司債券(附註(ii))	2,035,361	2,843,245
		<b>5,536,489</b>	6,429,645
Less: current portion of long-term borrowings	減：長期借款的即期部分	<b>(1,482,784)</b>	(1,314,008)
		<b>4,053,705</b>	5,115,637

Notes

- (i) Secured long-term interest-bearing borrowings as at 31 December 2017 were secured by concession assets (Note 16), trade and bills receivables (Note 24) and long-term service concession receivables (Note 21).
- (ii) In August 2012, the Company issued corporate bonds of RMB4,000,000,000, which comprise 3-year corporate bonds of RMB1,200,000,000 issued at par and with a coupon rate of 4.30% per annum, 5-year corporate bonds of RMB800,000,000 issued at par and with a coupon rate of 4.65% per annum and 10-year corporate bonds of RMB2,000,000,000 issued at par and with a coupon rate of 5.15% per annum. All corporate bonds are guaranteed by Guodian. The effective interest rates of the bonds are 4.52%, 4.85% and 5.24% per annum respectively. The Company repaid the 3-year corporate bonds of RMB1,200,000,000 in August 2015 and 5-year corporate bonds of RMB800,000,000 in August 2017.
- (iii) In January 2016, the Company issued first and second tranches of 3-year private placement notes with face values of RMB1,000,000,000 and RMB400,000,000, respectively. The private placement notes are unsecured and issued at par and with coupon rates of 4.35% and 4.30% per annum, respectively. The effective interest rates of the placement notes are 4.67% and 4.63% per annum, respectively.

附註：

- (i) 於2017年12月31日，抵押的長期帶息借款為以特許經營權資產(附註16)、應收賬款及票據(附註24)應收服務特許權長期應收款項(附註21)抵押。
- (ii) 於2012年8月，本公司發行公司債券人民幣4,000,000,000元，包括按面值發行的三年期公司債券人民幣1,200,000,000元，票面年利率為4.30%；按面值發行的五年期公司債券人民幣800,000,000元，票面年利率為4.65%；按面值發行的十年期公司債券人民幣2,000,000,000元，票面年利率為5.15%。所有公司債券由國電擔保。此等債券的實際年利率分別為4.52%、4.85%及5.24%。公司已在2015年8月償還了三年期公司債券人民幣1,200,000,000元，以及在2017年8月償還了五年期公司債券人民幣800,000,000元。
- (iii) 於2016年1月，本公司分別發行了第一期和第二期面值總額分別為為人民幣1,000,000,000和400,000,000的私人配售債務融資工具。期限為三年，無擔保，並按面值發行。票面利率分別為4.35%和4.30%。此等債券的實際年利率分別為4.67%和4.63%。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



#### 29 BORROWINGS (CONTINUED)

#### 29 借款(續)

(b) The short-term interest-bearing borrowings comprise:

(b) 短期帶息借款包括：

		2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元
Bank loans	銀行貸款		
– secured	– 抵押	–	520,000
– unsecured	– 無抵押	5,616,500	6,043,997
Other loans	其他貸款		
– Guodian (unsecured) (Note)	– 國電(無抵押)(附註)	600,000	600,000
Current portion of long-term borrowings	長期借款的即期部分	1,482,784	1,314,008
		<b>7,699,284</b>	8,478,005

Note: Other loans from Guodian as at 31 December 2017 are unsecured, bear interest rates from 3.70% to 4.75% (2016: from 3.70%-4.56%) per annum, and are repayable within one year.

附註：於2017年12月31日從國電借的其他貸款為無抵押貸款，利率區間為3.70%-4.75%(2016年：3.70%-4.56%)，並於一年內支付。

(c) The interest rates per annum on borrowings are as follows:

(c) 借款年利率如下：

		2017	2016
<b>Long-term</b>	<b>長期</b>		
Bank loans	銀行貸款	4.51%–5.88%	4.28%–5.88%
Other loans	其他貸款	4.51%–5.51%	4.86%–5.51%
Private placement notes	私人配售債務融資工具	4.30%–4.35%	4.30%–4.35%
Corporate bonds	公司債券	4.65%–5.15%	4.65%–5.15%
<b>Short-term</b>	<b>短期</b>		
Bank loans	銀行貸款	3.85%–5.22%	3.82%–5.87%
Other loans	其他貸款	3.70%–4.75%	3.70%–8.00%

(d) The long-term borrowings are repayable as follows:

(d) 長期借款還款情況如下：

		2017 RMB'000 人民幣千元	2016 RMB'000 人民幣千元
Within 1 year or on demand	1年內或要求時立即還款	1,482,784	1,314,008
After 1 year but within 2 years	1年以上但2年以內	1,721,892	1,365,323
After 2 years but within 5 years	2年以上但5年以內	2,321,718	2,170,728
After 5 years	5年以上	10,095	1,579,586
		<b>5,536,489</b>	6,429,645

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 30 TRADE AND BILLS PAYABLES

### 30 應付賬款及票據

		<b>2017</b>	2016
		<b>RMB'000</b>	RMB'000
		人民幣千元	人民幣千元 (restated) (重述)
Bills payable to:	應付票據：		
– sub-contractors and equipment suppliers	– 分包商及設備供貨商	<b>145,507</b>	182,975
– raw material suppliers	– 原材料供貨商	<b>1,236,693</b>	1,934,785
		<b>1,382,200</b>	2,117,760
Trade payables to:	應付賬款：		
– sub-contractors and equipment suppliers:	– 分包商及設備供貨商：		
– related parties under Guodian	– 國電下屬的關聯方	<b>34,645</b>	109,129
– associates	– 聯營公司	<b>4,588</b>	2,926
– third parties	– 第三方	<b>4,855,724</b>	5,187,145
		<b>4,894,957</b>	5,299,200
– raw material suppliers:	– 原材料供貨商：		
– related parties under Guodian	– 國電下屬的關聯方	<b>27,564</b>	17,078
– associates	– 聯營公司	<b>8,681</b>	8,681
– third parties	– 第三方	<b>3,371,319</b>	3,415,386
		<b>3,407,564</b>	3,441,145
		<b>9,684,721</b>	10,858,105

As at 31 December 2017 and 2016, all trade and bills payables of the Group are repayable on demand except for bills payable which are repayable within 6 months. All trade and bills payables are expected to be settled within one year.

於2017年及2016年12月31日，除於6個月內應償還的應付票據之外，本集團的所有應付賬款及票據應在對方要求時立即償還。預計所有應付賬款及票據將在一年之內結清。



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 31 OTHER PAYABLES

### 31 其他應付款項

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
Interest payables	應付利息		
– Guodian	– 國電	<b>598</b>	4,362
– related parties under Guodian	– 國電下屬的關聯方	<b>1,261</b>	4,758
– third parties	– 第三方	<b>12,927</b>	12,474
Payables for staff related costs	應付員工的相關成本	<b>111,437</b>	115,084
Payables for other taxes	應付其他稅項	<b>205,063</b>	292,803
Payables for purchase of property, plant and equipment and lease prepayments	購買物業、廠房及設備以及土地使用權的應付款項		
– related parties under Guodian	– 國電下屬的關聯方	<b>13,492</b>	13,492
– third parties	– 第三方	<b>230,565</b>	314,234
Deposits from	按金		
– sub-contractors (Note(i))	– 分包商(附註(i))	<b>65,485</b>	69,792
– a third party	– 第三方	–	3,000
Retention payables (Note (iii))	應付質保金款項(附註(iii))		
– related parties under Guodian	– 國電下屬的關聯方	<b>13,822</b>	48,592
– third parties	– 第三方	<b>636,690</b>	869,933
Advances from third parties (Note (iv))	第三方墊款(附註(iv))	–	20,000
Dividends payables	應付股息		
– non-controlling equity owners of subsidiaries	– 附屬公司非控股權益所有者	<b>25,830</b>	42,491
Other accruals and payables	其他預提金額與應付款項		
– Guodian (Note (iii))	– 國電(附註(iii))	<b>601,700</b>	602,001
– related parties under Guodian	– 國電下屬的關聯方	<b>62,743</b>	30,673
– associates	– 聯營公司	–	2,669
– third parties	– 第三方	<b>313,216</b>	230,303
Financial liabilities measured at amortised cost	按攤銷成本計量的金融負債	<b>2,294,829</b>	2,676,661
Provision for an outstanding litigation (Note (v))	未決訴訟的準備金(附註(v))	<b>136,414</b>	–
Receipts in advance	預收款項		
– related parties under Guodian	– 國電下屬的關聯方	<b>644,842</b>	623,452
– third parties	– 第三方	<b>296,254</b>	327,099
		<b>941,096</b>	950,551
		<b>3,372,339</b>	3,627,212

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 31 OTHER PAYABLES (CONTINUED)

Notes:

- (i) The balances represent deposits from sub-contractors for contract bidding. The deposits will be released to sub-contractors upon the completion of the related bidding.
- (ii) Retention payables represent the amounts due to equipment and construction contractors which will be settled upon the expiry of the warranty period.
- (iii) The balances mainly represented an amount of RMB600,000,000 due to Guodian, for repayment of a bank loan of RMB600,000,000 on behalf of GD Solar in the year ended 31 December 2016. All amounts due to Guodian are interest-free, unsecured and have no fixed terms of repayment.
- (iv) The amount is interest-free, unsecured and have no fixed terms of repayment.
- (v) During the year ended 31 December 2017, a subsidiary of the Group was sued by a third party supplier for payment of purchase of materials. Up to the date of this report, the litigation is pending for final judgement and the directors of the Company are of the opinion that there is significant uncertainty regarding the result. The Group's maximum exposure arising from the litigation would be RMB136,414,000 which has been recognised as "administrative expenses" in the consolidated statement of profit or loss for the year ended 31 December 2017.

All of the other payables of the Group are expected to be settled or recognised as income within one year or are repayable on demand.

### 31 其他應付款項(續)

附註：

- (i) 該款項指收取分包商的按金。招標結束之後，按金即還給包商。
- (ii) 應付質保金款項指保修期滿之後，應付給設備及施工承包商的款項。
- (iii) 該款項為截至2016年12月31日止年度，國電作為保證人代為支付國電光伏6億元人民幣銀行借款而形成的墊款。所有款項均不帶息、無抵押且未規定還款期。
- (iv) 該款項不帶息、無抵押且未規定還款期。
- (v) 截至2017年12月31日止年度，本集團附屬公司被第三方供應商起訴，要求支付逾期應付採購材料款項。於本報告日，該訴訟仍在等待最終判決，本公司董事認為該結果有重大不確定性。對該訴訟，該集團的最大損失為人民幣136,414,000元。因此，在本集團截至2017年12月31日止年度的合併財務報表中，確認了人民幣136,414,000元的行政開支。

預計本集團的所有其他應付款項將於一年之內結清或確認為收入，或提出要求之後立即支付。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 32 INCOME TAX IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION 32 合併財務狀況表中的所得稅

(a) Tax (recoverable)/payable in the consolidated statement of financial position represents:

(a) 合併資產負債中(可收回)/應付稅項：

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
Net tax (recoverable)/payable at 1 January	於1月1日(可收回)/應付稅項淨額	<b>(100,041)</b>	3,091
Provision for the year (Note 8(a))	本年度撥備(附註8(a))	<b>220,747</b>	160,622
Under provision in respect of prior years (Note 8(a))	以往年度撥備不足(附註8(a))	<b>70,849</b>	87,996
Income tax paid	繳納的所得稅	<b>(280,231)</b>	(353,938)
Reclassified as liabilities held for sale (Note 28)	本年度轉移到持有待售的負債(附註28)	-	2,188
Net tax recoverable at 31 December	於12月31日可收回稅項淨額	<b>(88,676)</b>	(100,041)
<i>Representing:</i>	<i>包括：</i>		
Income tax payable	應付所得稅	<b>44,312</b>	51,681
Tax recoverable	可收回稅項	<b>(132,988)</b>	(151,722)
		<b>(88,676)</b>	(100,041)

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 32 INCOME TAX IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

### 32 合併財務狀況表中的所得稅(續)

#### (b) Deferred tax assets and liabilities recognised:

The components of deferred tax assets/(liabilities) recognised in the consolidated statement of financial position and the movements during the year are as follows:

#### (b) 已確認的遞延稅項資產及負債：

合併資產負債表中確認的遞延稅項資產/(負債)以及在本年度的變化情況如下所述：

		Provision for impairment of assets	Tax losses	Unrealised profits on intra-group transactions	Deferred income	Provision for warranty	Intangible assets	Others	Total
		資產減值撥備	稅項虧損	集團內部交易未實現利潤	遞延收益	質保金撥備	無形資產	其他	合計
		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
At 1 January 2016 (as previously reported)	於2016年1月1日 (往期披露)	161,404	28,473	38,064	46,646	106,796	(123,524)	27,566	285,425
Effect on acquisition of a subsidiary under common control	收購同一控制下附屬公司的影響	323	-	-	-	-	-	-	323
At 1 January 2016 (restated)	於2016年1月1日(重述)	161,727	28,473	38,064	46,646	106,796	(123,524)	27,566	285,748
Credited/(charged) to profit or loss (restated) (Note 8(a))	計入/(扣減)損益(重述)(附註8(a))	76,361	(18,734)	440	(8,741)	113,345	(4,828)	(32,725)	125,118
Reclassified as assets held for sale during the year	年內劃分為持有待售資產	(286)	-	-	(2,343)	(394)	-	-	(3,023)
At 31 December 2016 and 1 January 2017 (restated)	於2016年12月31日及2017年1月1日(重述)	237,802	9,739	38,504	35,562	219,747	(128,352)	(5,159)	407,843
Credited/(charged) to profit or loss (Note 8(a))	計入/(扣減)損益(附註8(a))	57,176	29,656	2,716	(2,749)	(42,339)	1,358	63,391	109,209
Reclassified as assets held for sale during the year	年內劃分為持有待售資產	(130)	-	-	-	-	-	-	(130)
At 31 December 2017	於2017年12月31日	294,848	39,395	41,220	32,813	177,408	(126,994)	58,232	516,922

Notes:

Deferred tax liabilities in respect of intangible assets arose from the temporary differences in development costs and concession assets.

附註：

關於無形資產所產生的遞延所得稅負債是由於開發成本與特許權資產的暫時性差異而產生的。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 32 INCOME TAX IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

### 32 合併財務狀況表中的所得稅(續)

#### (b) Deferred tax assets and liabilities recognised: (continued)

#### (b) 已確認的遞延稅項資產及負債：(續)

#### Reconciliation to the consolidated statement of financial position

調節至合併財務狀況表：

	2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元 (restated) (重述)
Net deferred tax asset recognised in the consolidated statement of financial position	724,191	613,181
Net deferred tax liability recognised in the consolidated statement of financial position	(207,269)	(205,338)
	<b>516,922</b>	407,843

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 32 INCOME TAX IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

### 32 合併財務狀況表中的所得稅(續)

#### (c) Deferred tax assets not recognised

In accordance with the accounting policy set out in Note 2(v), the Group has not recognised deferred tax assets in respect of unused tax losses and certain deductible temporary differences of RMB6,671,840,000 (2016: RMB8,175,535,000), as it is not probable that future taxable profits against which the losses or the temporary differences can be utilised will be available in the relevant tax jurisdictions and entities. Unused tax loss of RMB1,881,975,000 of a subsidiary with discontinued operation was not approved by local tax bureau to be deductible in the future during the tax filing process in 2017. As at 31 December 2017, the expiration of tax losses of the Group, if unused, is as follows:

#### (c) 未確認的遞延稅項資產

根據附註2(v)中列出的會計政策，本集團未確認遞延稅項資產包括未利用的稅項虧損與某些可抵扣的暫時性差異為人民幣6,671,840,000元(2016年：人民幣8,175,535,000元)，因為在相關稅務管轄區域及實體內，將來不很可能產生可以使用此等未利用稅項虧損或暫時性差異的應納稅利潤。2017年，一家已終止經營業務附屬公司的金額為人民幣1,881,975,000元的未利用的稅項虧損，在報稅過程中未被當地稅務部門認為將來可扣除稅項，因此未被確認為遞延稅項資產。於2017年12月31日，本集團未利用的稅項虧損的期限如下：

	2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
2017	—	94,596
2018	<b>84,197</b>	140,883
2019	<b>90,128</b>	187,846
2020	<b>487,861</b>	692,517
2021	<b>394,065</b>	2,390,812
2022	<b>639,067</b>	—
	<b>1,695,318</b>	3,506,654

#### (d) Deferred tax liability not recognised

At 31 December 2017, taxable temporary differences relating to undistributed profits and PRC statutory reserves of subsidiaries and associates amounted to RMB4,133,646,000 (2016: RMB3,446,294,000). No deferred tax liability was recognised in respect of these taxable temporary differences as dividends from subsidiaries and associates are not subject to PRC income tax and the Group has no plan to dispose of these subsidiaries and associates in the foreseeable future.

#### (d) 未確認的遞延稅項負債

於2017年12月31日，關於附屬公司與聯營公司的未分配利潤及中國法定公積金的應納稅暫時性差異為人民幣4,133,646,000元(2016年：人民幣3,446,294,000元)。關於此等應納稅暫時性差異，未確認任何遞延所稅項負債，因為從附屬公司及聯營公司取得的股息不需繳納中國所得稅，且在可預見的未來，本集團並無任何計劃出售此等附屬公司及聯營公司。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 33 PROVISION FOR WARRANTY

The movement of provisions for product warranty during the year is as follows:

		<b>2017</b>	2016
		<b>RMB'000</b>	RMB'000
		人民幣千元	人民幣千元
At 1 January	於1月1日	<b>993,090</b>	787,056
Additional provisions made	額外撥備	<b>85,573</b>	405,557
Reclassified as liabilities held for sale	本年度劃分至持有待售的負債	<b>(1,307)</b>	(1,579)
Provision utilised	已使用撥備	<b>(229,840)</b>	(197,944)
At 31 December	於12月31日	<b>847,516</b>	993,090
Less: current portion of provision for warranty	減：質保金撥備的即期部份	<b>(170,558)</b>	(255,294)
		<b>676,958</b>	737,796

Under the terms of the Group's sales agreements, the Group will rectify product defects of wind turbines, steam turbines and distributed control system products arising within one to five years of the date of sale. Provision is therefore made for the best estimate of the expected settlement under these agreements in respect of sales made within one to five years prior to the end of the reporting period.

In addition, the Group's photovoltaic modules typically sold with a two or five-year warranty for defects in materials and workmanship and a ten and twenty-five year minimum power output warranty, against declines of more than 10% and 20%, respectively, of initial power generation capacity from the date of delivery. The Group has the responsibility to repair or replace solar modules, at customers' option, under the terms of the warranty policy. The Group maintains warranty provision to cover potential liabilities that could arise under these warranties.

The amount of the provision takes into account the Group's recent claim experience and the experiences of other companies for similar products and is only made where a warranty claim is probable.

本年度質保金撥備的變化如下：

根據本集團銷售協議條款規定，產品售出日期之後1-5年內風機、汽輪機與分布式控制系統產生的產品缺陷，本集團將進行保修。因此，就在報告期末之前的1-5年內的銷售，根據協議項下的預期償付金額的最佳估計作出了撥備。

此外，本集團的光伏組件通常提供2年或5年的原材料及製作工藝缺陷質保期，且針對交付日期時的初始發電能力降低超過10%與20%，分別提供10年及25年的最小發電量質保。在質保條款項下，根據客戶的要求，本集團有責任維修或更換太陽能組件。本集團對此等質保項下潛在的責任計提質保撥備。

根據本集團近年來的理賠經驗以及其他公司關於類似產品的處理經驗，確定此等質保撥備，並僅對很可能產生質保要求的情形提取撥備。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 34 DEFERRED INCOME

### 34 遞延收益

		<b>2017</b> <b>RMB'000</b> 人民幣千元	2016 RMB'000 人民幣千元 (restated) (重述)
At 1 January	於1月1日	<b>378,886</b>	506,453
Additions	增加	<b>11,038</b>	3,582
Reclassified as liabilities held for sale (Note 28)	本年度轉移至持有待售的負債 (附註28)	-	(81,891)
Credited to profit or loss	計入損益	<b>(21,367)</b>	(49,258)
At 31 December	於12月31日	<b>368,557</b>	378,886

Deferred income mainly represents government grants relating to the construction of property, plant and equipment, as well as technology research funding related to environmental protection related assets, which would be recognised as income on a straight-line basis over the expected useful life of the relevant assets. The deferred income recognised is included in "other revenue" in the consolidated statement of profit or loss.

遞延收益主要包括政府給予關於物業、廠房及設備的建造補貼，以及關於相關環保資產的技術研發基金，根據直線法在相關資產的預計使用壽命期內確認收入。確認為遞延收益的款項包括在合併損益表的「其他收入」中。

### 35 OTHER NON-CURRENT LIABILITIES

### 35 其他非流動負債

		<b>2017</b> <b>RMB'000</b> 人民幣千元	2016 RMB'000 人民幣千元
Long-term retention payables to third parties	應付第三方長期質保金	<b>397,635</b>	216,562
Other non-current financial liabilities	其他非流動金融負債	<b>6,370</b>	6,370
		<b>404,005</b>	222,932

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 36 CAPITAL, RESERVES AND DIVIDENDS

### 36 資本、儲備及股息

#### (a) Movements in components of equity

The reconciliation between the opening and closing balances of each component of the Group's consolidated equity is set out in the consolidated statements of changes in equity. Details of the changes in the Company's individual components of equity between the beginning and the end of the year are set out below:

#### (a) 權益組成部份的變動

合併權益變動表中列出了本集團合併權益中各組成部份的期初及期末餘額的調節情況。本公司權益各組成部份的年初及年末變化情況如下所述：

		Share capital 股本 RMB'000 人民幣千元	Capital reserve 資本儲備 RMB'000 人民幣千元	PRC statutory reserve 中國法定公積金 RMB'000 人民幣千元	Accumulated losses 累計虧損 RMB'000 人民幣千元	Total equity 權益總額 RMB'000 人民幣千元
Balance at 1 January 2016	2016年1月1日結 餘	6,063,770	805,682	129,332	(2,836,258)	4,162,526
Changes in equity for 2016:	2016年權益變 化：					
Loss and total comprehensive income for the year	本年度虧損及綜 合收益總額	-	-	-	(756,381)	(756,381)
Balance at 31 December 2016 and 1 January 2017	2016年12月31日 及2017年1月 1日餘額	<b>6,063,770</b>	<b>805,682</b>	<b>129,332</b>	<b>(3,592,639)</b>	<b>(3,406,145)</b>
Changes in equity for 2017	2017年權益變化					
Loss and total comprehensive income for the year	本年度虧損及綜 合收益總額	-	-	-	(851,953)	(851,953)
Capital contributions from the shareholder to a subsidiary acquired under common control	收購的同一控制 下的附屬公司 從股東處獲得 的資本投入	-	(6,942)	-	-	(6,942)
Balance at 31 December 2017	2017年12月31日 餘額	<b>6,063,770</b>	<b>798,740</b>	<b>129,332</b>	<b>(4,444,592)</b>	<b>2,547,250</b>

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 36 CAPITAL, RESERVES AND DIVIDENDS (CONTINUED) 36 資本、儲備及股息(續)

#### (b) Dividends

- (i) Dividends payable to equity shareholders of the Company attributable to the year

The directors of the Company did not recommend the payment of a final dividend in respect of the years ended 31 December 2017 and 2016.

- (ii) Dividends payable to equity shareholders of the Company attributable to previous financial year, approved during the year.

The directors of the Company did not approve or pay any dividend in respect of the previous financial year during the years ended 31 December 2017 and 2016.

#### (b) 股息

- (i) 本年應付本公司權益股東股息

本公司董事會不建議派發截至2017年及2016年12月31日止年度末期股息。

- (ii) 本年批准的上一個財年應向權益股東支付的股息。

截至2017年及2016年12月31日止年度本公司董事會未批准或派發以前年度上關的股息。

#### (c) Share capital

Registered and issued share capital

#### (c) 股本

已註冊及發行的股本

		No. of shares 股數	
		'000	RMB'000
		'000	人民幣千元
<b>Ordinary shares, registered, issued and fully paid:</b>	<b>已註冊、發行且全部繳足的普通股：</b>		
<b>Domestic shares of RMB1.00 each</b>	<b>國內股份，每股人民幣1元</b>		
At 1 January 2016, 31 December 2016 and 31 December 2017	於2016年1月1日，2016年12月31日及2017年12月31日	4,754,000	4,754,000
<b>H shares of RMB1.00 each</b>	<b>H股，每股人民幣1元</b>		
At 1 January 2016, 31 December 2016 and 31 December 2017	於2016年1月1日，2016年12月31日及2017年12月31日	1,309,770	1,309,770
<b>Total</b>	<b>總計</b>		
At 31 December 2017 and 2016	於2017年及2016年12月31日	6,063,770	6,063,770

The holders of ordinary shares are entitled to receive dividends as declared from time to time and are entitled to one vote per share at meetings of the Company. All ordinary shares rank equally with regard to the Company's residual assets.

普通股持有人有權收取不時公佈的股息，且每股在本公司會議上享有一票投票權。所有普通股對公司的剩餘資產享有同樣權利。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 36 CAPITAL, RESERVES AND DIVIDENDS (CONTINUED) 36 資本、儲備及股息(續)

#### (d) Nature and purpose of reserves

##### (i) Capital reserve

Capital reserve mainly represents share premium, contributions from Guodian, and the difference between the considerations of acquisition or disposal of equity interests from/to non-controlling equity owners and the carrying amount of the proportionate net assets.

##### (ii) PRC statutory reserve

According to the Company's Article of Association, the Company is required to transfer 10% of its net profit as determined in accordance with accounting rules and regulations of the PRC to its statutory reserve until the reserve balance reaches 50% of the registered capital. The transfer to this reserve must be made before distribution of a dividend to equity shareholders. This reserve fund can be utilised in setting off accumulated losses or increasing capital of the Company and is non-distributable other than in liquidation.

##### (iii) Exchange reserve

Exchange reserve comprises all foreign exchange differences arising from the translation of the financial statements of operations that have functional currency other than the RMB which are dealt with in accordance with the accounting policies as set out in Note 2(y).

#### (e) Reclassification of non-controlling interests due to liquidation of a subsidiary

The reclassification of non-controlling interests mainly represents the Group assumed bank loans of a subsidiary during its process of liquidation. The assumed bank loans are guaranteed by the Group.

#### (d) 儲備性質及用途

##### (i) 資本儲備

資本儲備主要包括股份溢價、國電繳款、以及向非控股權益所有者購買或出售權益的對價與相應淨資產賬面金額之間的差額。

##### (ii) 中國法定公積金

根據本公司的《公司章程》規定，要求本公司將根據中國會計準則及法規確定的淨利潤的10%轉為本公司的法定公積金，直至公積金剩餘總額達到註冊資本的50%。必須在向權益股東分配股息之前，提取該公積金。該公積金可以用於彌補本公司的累計虧損或增資，並且除清算之外不得進行分配。

##### (iii) 匯兌儲備

匯兌儲備包括根據附註2(y)規定的會計政策換算非人民幣為功能貨幣的業務的財務報表時所產生的所有匯兌差額。

#### (e) 因清算附屬公司進行的非控股權益重分類

非控股權益的重分類主要體現本集團承擔了一家正在清算過程中的附屬公司的銀行貸款。該銀行貸款現由本集團提供擔保。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 36 CAPITAL, RESERVES AND DIVIDENDS (CONTINUED)

#### (f) Distributability of reserves

In accordance with the Articles of Association of the Company, the net profit after tax of the Company for the purpose of dividends payment will be the lesser of (i) the net profit determined in accordance with the accounting rules and regulations of the PRC; and (ii) the net profit determined in accordance with IFRSs. As of 31 December 2017, the retained profits available for distribution are RMBNil (2016: RMBNil).

#### (g) Capital management

The Group's primary objectives when managing capital are to safeguard the Group's ability to continue as a going concern, so that it can continue to provide returns for equity shareholders and benefits for other stakeholders, by pricing products and services commensurately with the level of risk and by securing access to financing at a reasonable costs.

The Group actively and regularly reviews and manages its capital structure to maintain a balance between the higher equity shareholder returns that might be possible with higher levels of borrowings and the advantages and security afforded by a sound capital position, and makes adjustments to the capital structure in light of changes in economic conditions.

The Group monitors its capital structure on the basis of liability-to-asset ratio, which is calculated as total liabilities by total assets. The liability-to-asset ratio of the Group was 78% (2016: 80%).

There were no changes in the Group's approach to capital management during the year. Neither the Company nor any of its subsidiaries are subject to externally imposed capital requirements.

### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES

Exposure to credit, liquidity, interest rate and currency risks arises in the normal course of the Group's business.

The Group's exposure to these risks and the financial risk management policies and practices used by the Group to manage these risks are described below:

### 36 資本、儲備及股息(續)

#### (f) 儲備的可分配性

根據本公司的《公司章程》，作為股息分配的本公司稅後淨利潤應為以下兩者之中的孰低者：(i)按照中國會計準則及法規確定的淨利潤；(ii)按照《國際會計報告準則》確定的淨利潤。於2017年12月31日，可供分配的留存利潤額為人民幣零元(2016年：人民幣零元)。

#### (g) 資本管理

本集團資本管理的主要目標是，根據風險水平對產品及服務定價及按照合理的成本取得融資，以便保障本集團持續經營的能力，從而可以持續向權益股東提供回報並向其他利益關聯方提供益處。

本集團積極地並且定期審查並管理本集團的資本結構，在較高的借款水平情況下向權益股東提供較高回報的同時，保持本集團具有較好的資本優勢及安全性，並按照經濟形勢不斷調整本集團的資本結構。

本集團根據負債對資產比率監控本集團的資本結構。本集團的負債對資產比率分別為78%(2016年：80%)。

本年度本集團的資本管理方法沒有發生變更。本公司或其任何附屬公司均未有受外界施加的資本要求。

### 37 財務風險管理及公允價值

本集團的正常業務過程中存在信用、流動資金、利率以及貨幣風險。

本集團面臨的此等風險以及本集團的財務風險管理政策及措施如下所述：



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)

### 37 財務風險管理及公允價值(續)

#### (a) Credit risk

The Group's credit risk is primarily attributable to cash at bank and in hand, trade and bills receivables, deposits, prepayments and other receivables and other non-current assets. Management has a credit policy in place and the exposure to these credit risks are monitored on an ongoing basis.

Substantially all of the Group's cash at bank and in hand are deposited in the stated owned/controlled PRC banks which the directors of the Company assessed the credit risk to be insignificant.

In respect of trade and bills receivables, deposits, prepayments and other receivables and other non-current assets, individual credit evaluations are performed on all customers. These evaluations focus on the customer's past history of making payments when due and current ability to pay, and take into account information specific to the customer as well as pertaining to the economic environment in which the customer operates. The Group generally requires customers to settle trade receivables in accordance with contracted terms and other debts in accordance with agreements. Credit terms may be granted to customers, depending on the nature of business. Normally, the Group does not obtain collateral from customers.

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer rather than the industry in which the customers operate and therefore significant concentrations of credit risk primarily arise when the Group has significant exposure to individual customers. At the end of the reporting period, 35% and 11% (2016: 38% and 10%) of trade and other receivables was due from Guodian and related parties under Guodian, the Group's largest customer, and the five largest remaining customers respectively.

Except for the financial guarantees given by the Group as set out in Note 39, the Group does not provide any other guarantees which would expose the Group to credit risk. The maximum exposure to credit risk in respect of these financial guarantees at the end of the reporting period is disclosed in Note 39.

#### (a) 信用風險

本集團的信用風險主要與如下因素有關：銀行存款及庫存現金、應收賬款及票據、按金、預付款項及其他應收款項，以及其他非流動資產。管理層已建立了信用管理政策，不斷監控信用風險因素。

本集團近乎所有的銀行存款及庫存現金均存放於中國有／國有投股的銀行，本公司董事們評估認為其信用風險不大。

關於應收賬款及票據、按金、預付款項及其他應收款項與其他非流動資產，已對所有客戶進行了單獨信用評估。評估針對客戶過去的到期款項支付歷史及目前的支付能力，並考慮了客戶的具體情況，以及客戶營業所在地的整體經濟環境。總體上，本集團要求客戶按照合同條款結算應收賬款，並按照協議規定結清其他欠款。根據業務性質，可能會給予客戶一定的付款信用期限。通常，本集團不向客戶收取抵押物。

本集團的信用風險主要受到每個客戶的具體情況影響，而不會受到客戶所從事行業的影響，因此，當本集團頻繁地接觸個別客戶時，信用風險的集中度就會增加。於報告期末，分別有35%與11%(2016年：38%與10%)的應收賬款及其他應收款項來自於國電及國電下屬的關聯方(本集團最大的客戶)和其餘的前五大客戶。

除附註39中本集團提供的金融擔保之外，本集團未提供任何其他會使本集團承受信用風險的其他擔保。於報告期末，這些金融擔保產生的最大信用風險度，已在附註39中進行了披露。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)

#### (a) Credit risk (continued)

Further quantitative disclosures in respect of the Group's exposure to credit risk arising from trade and bills receivables, deposits, prepayments and other receivables and other non-current assets are set out in Notes 24, 25 and 21, respectively.

#### (b) Liquidity risk

The Group's objective is to ensure continuity of sufficient funding and flexibility by utilising a variety of bank loans and other borrowings with debt maturities spreading over a range of periods, thereby ensuring that the Group's outstanding borrowing obligation is not exposed to excessive repayment risk in any one year.

The Company is responsible for the Group's overall cash management and the raising of borrowings to cover expected cash demands. The Group's policy is to regularly monitor current and expected liquidity requirements to ensure that it maintains sufficient reserves of cash and adequate committed lines of funding from major financial institutions to meet its liquidity requirements in the short and longer term.

In order to enhance the Group's liquidity and solvency position, the Group have taken a series of measures and the directors of the Company are satisfied that the Group will have necessary liquid funds to finance its working capital and capital expenditure requirements according to the Group's business plan and cash flow forecast. With regards to its future capital commitments and other financing requirements, the Group has unutilised banking facilities of RMB18,264,002,000 (2016: RMB16,665,956,000) as at 31 December 2017. The directors of the Company are of the opinion that the assumptions which are included in the cash flow forecast are reasonable. However, as with all assumptions in regard to future events, these are subject to inherent limitations and uncertainties and some or all of these assumptions may not be realised.

### 37 財務風險管理及公允價值(續)

#### (a) 信用風險(續)

與應收賬款及票據、按金、預付款項以及其他應收款項，及其他非流動資產相關的本集團信用風險，分別在附註24、25以及21中進行了披露。

#### (b) 流動資金風險

為保證本集團具有足夠的連續資金以及資金靈活性，本集團採用多元化的銀行貸款及其他借款，債務到期日期較為分散，從而使本集團的還款義務不會過度地集中於任何一個年度。

本公司負責本集團的整體現金管理以及滿足所有現金需求的借款事宜。根據本集團的財務政策，本集團定期監控流動資金及預計流動資金的需求性，確保本集團具有足夠的現金儲備，並在主要金融機構中具有適當的資金承諾額度，從而滿足本集團長期以及短期的流動資金需求。

為了增強集團的資金流動性和償債能力，本集團已採取了多重措施。根據本集團的商業計劃和現金流量預測，董事會同意本集團採用必要的流動資金為其運營資本和資本支出需求提供資金支持。關於本集團未來的資金承擔及其他融資要求，於2017年12月31日，本集團未動用銀行授信為人民幣18,264,002,000元(2016年：人民幣16,665,956,000元)。本公司董事們認為，現金流預計的假設條件是合理的。然而，關於未來事件的所有假設條件本身均具有限制性及不確定性，某些或者所有此類假設條件均可能不會實現。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 37 財務風險管理及公允價值(續)

#### (b) Liquidity risk (continued)

The following tables show the remaining contractual maturities at the end of the reporting period of the Group's non-derivative financial liabilities, which are based on contractual undiscounted cash flows (including interest payments computed using contractual rates or, if floating, based on rates current at the end of the reporting period) and the earliest date the Group can be required to pay:

#### (b) 流動資金風險(續)

下表列出了於報告期末，本集團非衍生金融負債的剩餘合同期限，依據是合同未貼現現金流(包括根據合同利率計算的利息款額，如果採用浮動利率，即為根據報告期末的利率計算的利息款額)，以及可能要求本集團支付的最早日期：

	2017					
	Contractual undiscounted cash outflow 合同未貼現現金流出					
	Within 1 year or on demand 1年內或 要求即付 RMB'000 人民幣千元	More than 1 year but less than 2 years 1年以上 2年以下 RMB'000 人民幣千元	More than 2 years but less than 5 years 2年以上 5年以下 RMB'000 人民幣千元	More than 5 years 5年以上 RMB'000 人民幣千元	Total 合計 RMB'000 人民幣千元	Carrying amount 賬面金額 RMB'000 人民幣千元
Long-term borrowings (Note 29(a)) 長期借款(附註29(a))	36,327	1,847,474	2,820,957	10,589	4,715,347	4,053,705
Short-term borrowings (Note 29(b)) 短期借款(附註29(b))	7,849,370	-	-	-	7,849,370	7,699,284
Trade and bills payables (Note 30) 應付賬款及票據(附註30)	9,684,721	-	-	-	9,684,721	9,684,721
Other payables (Note 31) 其他應付款項(附註31)	1,937,713	-	-	-	1,937,713	1,937,713
Other non-current liabilities (Note 35) 其他非流動負債(附註35)	-	178,271	225,734	-	404,005	404,005
	<b>19,508,131</b>	<b>2,025,745</b>	<b>3,046,691</b>	<b>10,589</b>	<b>24,591,156</b>	<b>23,779,428</b>

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 37 財務風險管理及公允價值(續)

#### (b) Liquidity risk (continued)

#### (b) 流動資金風險(續)

	2016					Carrying amount 賬面金額 RMB'000 人民幣千元
	Contractual undiscounted cash outflow 合同未貼現現金流出					
	Within 1 year or on demand 1年內或 要求即付 RMB'000 人民幣千元	More than 1 year but less than 2 years 1年以上 2年以下 RMB'000 人民幣千元	More than 2 years but less than 5 years 2年以上 5年以下 RMB'000 人民幣千元	More than 5 years 5年以上 RMB'000 人民幣千元	Total 合計 RMB'000 人民幣千元	
Long-term borrowings (Note 29(a)) 長期借款(附註29(a))	41,879	1,507,658	2,415,831	2,103,000	6,068,368	5,115,637
Short-term borrowings (Note 29(b)) 短期借款(附註29(b))	8,514,334	-	-	-	8,514,334	8,478,005
Trade and bills payables (restated) (Note 30) 應付賬款及票據(重述)(附註30)	10,858,105	-	-	-	10,858,105	10,858,105
Other payables (restated) (Note 31) 其他應付款項(重述)(附註31)	2,204,689	-	-	-	2,204,689	2,204,689
Other non-current liabilities (Note 35) 其他非流動負債(附註35)	-	189,675	33,257	-	222,932	222,932
	21,619,007	1,697,333	2,449,088	2,103,000	27,868,428	26,879,368

#### (c) Interest rate risk

#### (c) 利率風險

The Group's interest rate risk arises primarily from long-term borrowings. Borrowings issued at variable rates expose the Group to cash flow interest rate risk.

本集團的利率風險主要來自於長期借款。浮動利率借款使本集團暴露於現金流利率風險之下。

The Group regularly reviews and monitors the mix of fixed and variable rate borrowings in order to manage its interest rate risks. During the year, however, management of the Group did not consider it is necessary to use interest rate swaps to hedge their exposure to interest.

為了管理本集團的利率風險，本集團定期審查並監控固定利率及浮動利率借款的組合。然而，本集團管理層認為在本年度無需通過利率掉期，對沖本集團的利率風險。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 37 財務風險管理及公允價值(續)

#### (c) Interest rate risk (continued)

##### (i) Interest rate profile

The following table details the profile of the Group's net borrowings (interest-bearing financial liabilities less interest-bearing financial assets) at the end of the reporting period. The detailed interest rates and maturity information of the Group's borrowings are disclosed in Note 29.

#### (c) 利率風險(續)

##### (i) 利率情況

下表詳細列出了報告期末本集團的淨借款情況(帶息金融負債減帶息金融資產)。附註29披露了本集團借款的詳細利率以及借款期限。

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
<b>Net fixed rate borrowings:</b>	<b>固定利率淨借款：</b>		
Borrowings	借款	<b>4,508,835</b>	6,573,518
Less: bank deposits (including restricted deposits)	減：銀行存款(包括受限制存款)	<b>(332,217)</b>	(366,908)
loans and advances	貸款及墊款	<b>(17,504)</b>	(16,039)
		<b>4,159,114</b>	6,190,571
<b>Net floating rate borrowings:</b>	<b>浮動利率淨借款：</b>		
Borrowings	借款	<b>5,412,654</b>	6,901,124
Other payables	其他應付款項	-	118,000
Less: bank deposits (including restricted deposits)	減：銀行存款(包括受限制存款)	<b>(4,170,800)</b>	(4,408,232)
loans and advances	貸款及墊款	-	(525,741)
		<b>1,241,854</b>	2,085,151
<b>Total net borrowings</b>	<b>淨額款總額</b>	<b>5,400,968</b>	8,275,722



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)

### 37 財務風險管理及公允價值(續)

#### (c) Interest rate risk (continued)

#### (c) 利率風險(續)

##### (ii) Sensitivity analysis

##### (ii) 敏感度分析

At 31 December 2017, it is estimated that a general increase/decrease of 100 basis points in interest rates of net floating borrowings, with all other variables held constant, the Group's profit after tax would have decreased/increased and accumulated loss would have increased/decreased by approximately RMB11,139,000 (2016: profit after tax would have decreased/increased and accumulated loss would have increased/decreased by approximately RMB18,075,000). Other components of consolidated equity would not be affected by the general increase/decrease in interest rates.

於2017年12月31日，預計淨浮動利率借款的利率普遍上漲／下調100個基點，其他所有變量保持不變，本集團的稅後利潤將下降／增長及累計虧損則將增長／下降約人民幣11,139,000元(2016年：人民幣18,075,000元)。合併權益的其他組成部份不會受到利率上漲／下調的影響。

The sensitivity analysis above has been determined assuming that the change in interest rates had occurred at the end of the reporting period and had been applied to the exposure to interest rate risk for non-derivative financial instruments in existence at the end of the reporting period. The impact on the Group's profit after tax (and retained profits) and other components of consolidated equity is estimated as an annualised impact on interest expense or income of such a change in interest rates.

做出上述敏感度分析的假設條件是利率變化發生在報告期末且套用於當日存在的非衍生金融工具的利率風險的敞口。對本集團稅後利潤(及留存利潤)及合併權益其他組成部份的影響是根據此利率變化對利息費用或收入的年度性影響而估計的。

The estimated 100 basis points increase or decrease represents management's assessment of a reasonable change in interest rates over the period until the next annual statement of financial position date. The analysis is performed on the same basis for 2016.

估計的100個基點上漲／下調，是管理層對利率至下一年度財務狀況表日期間可能發生的匯率變化作出的合理評估。與2016年分析方法相同。

#### (d) Currency risk

#### (d) 貨幣風險

The Group is exposed to currency risk primarily through sales and purchases which give rise to receivables and payables, as well as borrowings and cash at bank and in hand that are denominated in a foreign currency, i.e. a currency other than the functional currency of the operations to which the transactions relate. The currencies giving rise to this risk are primarily USD and HKD.

本集團的貨幣風險主要為採用外幣(即與交易相關的業務自功能性幣種不同的其他貨幣)計價的來源於銷售及購買活動產生的應收款項及應付款項，以及借款及銀行存款及庫存現金。與該風險相關的幣種主要包括美元及港幣。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)

### 37 財務風險管理及公允價值(續)

#### (d) Currency risk (continued)

#### (d) 貨幣風險(續)

##### (i) *Recognised assets and liabilities*

##### (i) 確認的資產與負債

The Group is exposed to currency risk primarily arising from cash at bank, receivables, payables and borrowings which are denominated in USD or HKD. Depreciation or appreciation of these foreign currencies against Renminbi would affect the financial position and operating results of the Group. The Group did not hedge its foreign currency exposure.

本集團的貨幣風險主要來源於採用美元或港幣計價的銀行存款、應收款項、應付款項及借款。此等外幣相對於人民幣的貶值或升值均會影響到本集團的財務狀況及經營業績。本集團未對沖外幣風險。

RMB is not a freely convertible currency and the PRC government may at its discretion restrict access to foreign currencies for current account transactions in the future. Changes in the foreign exchange control system may prevent the Group from satisfying sufficient foreign currency demands and the Group may not be able to pay dividends in foreign currencies to its equity shareholders.

人民幣並非自由兌換貨幣，中國政府可自行決定將來限制來往賬戶交易採用的外幣。關於外匯控制制度的變化，可能妨礙本集團滿足對外幣的需求，本集團可能無法採用外幣向股東支付股息。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)

### 37 財務風險管理及公允價值(續)

#### (d) Currency risk (continued)

#### (d) 貨幣風險(續)

##### (ii) Exposure to currency risk

##### (ii) 貨幣風險敞口

The following table details the Group's and the Company's exposure at the end of the reporting period to currency risk arising from recognised assets or liabilities denominated in a currency other than the functional currency of the entity to which they relate. For presentation purposes, the amounts of the exposure are shown in RMB, translated using the spot rate at the end of the reporting period. Differences resulting from the translation of the financial statements of foreign operations into the Group's presentation currency are excluded.

採用實體相關功能貨幣以外的其他幣種計價的確認資產或負債，使本集團及於報告期末承受的貨幣風險在下表中詳細列出。為陳述之目的，採用報告期末的現匯匯率兌換為人民幣來列示貨幣風險。未包括將境外業務的財務報表轉換成本集團報告貨幣所產生的差額。

	2017		2016		
	USD 美元 RMB'000 人民幣千元	HKD 港幣 RMB'000 人民幣千元	USD 美元 RMB'000 人民幣千元	EUR 歐元 RMB'000 人民幣千元	HKD 港幣 RMB'000 人民幣千元
Cash at bank and in hand					
銀行存款及庫存現金	10,064	39,753	16,230	1	40,404
Trade receivables	115,417	-	407,417	-	-
應收賬款					
Other receivables	-	125,718	-	-	134,124
其他應收賬款					
Net exposure	125,481	165,471	423,647	1	174,528
淨敞口					

##### (iii) Sensitivity analysis

##### (iii) 敏感度分析

The followings are the related foreign currency exchange rates to RMB during the year:

下表列出了本年度相關外幣與人民幣之間的匯率：

	2017		2016	
	Average rate 平均匯率	Reporting date spot rate 報告日現匯匯率	Average rate 平均匯率	Reporting date spot rate 報告日現匯匯率
USD 美元	6.7356	6.5342	6.7153	6.9370
HKD 港幣	0.8652	0.8359	0.8662	0.8945

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 37 財務風險管理及公允價值(續)

#### (d) Currency risk (Continued)

##### (iii) Sensitivity analysis (Continued)

A 5% strengthening of RMB against the following currencies would have increased/(decreased) the net profit after tax and retained profits by the amounts shown below. Other components of equity would not be affected by the strengthen of RMB against foreign currencies.

		2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
USD	美元	(5,333)	(690)
HKD	港幣	(6,205)	(6,545)
		<b>(11,538)</b>	<b>(7,235)</b>

A 5% weakening of RMB against the above currencies would have had the equal but opposite effect on the above currencies to the amounts shown above, on the basis that all other variables remain constant.

The sensitivity analysis has been determined assuming that the change in foreign exchange rates had occurred at the end of the reporting period and had been applied to the Group's exposure to currency risk for financial instruments in existence at that date, and that all other variables, in particular interest rates, remain constant.

The stated changes represent management's assessment of reasonably possible changes in foreign exchange rates over the period until the next annual statement of financial position date. The analysis is performed on the same basis for 2016.

#### (d) 貨幣風險(續)

##### (iii) 敏感度分析(續)

人民幣對如下貨幣5%的升值，稅後淨利潤及留存利潤的上漲／(下滑)金額如下表所列。權益的其他組成部份不會受到人民幣相對於外幣升值的影響。

人民幣相對於上述貨幣5%的貶值，如果所有其他變量保持不變，則對上述貨幣產生相同但相反的影響，影響金額如上表所列。

作出上述敏感度分析的假設條件是，匯率變化發生在報告期末且套用於當日存在的金融工具的貨幣風險敞口，且所有其他變量保持不變，尤其是利率未發生變化。

所陳述的匯率波動情況是管理層對至下一財務狀況表日期間可能發生的匯率變化的合理評估。分析方法同2016年的分析方法相同。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)

### 37 財務風險管理及公允價值(續)

#### (e) Fair values

The carrying amounts of the Group's and the Company's financial instruments carried at cost or amortised cost are not materially different from their fair values as at 31 December 2017 and 2016 except the following financial instruments, for which their carrying amounts and fair value and the level of fair value hierarchy as defined in IFRS 13, *Fair value measurement*, are disclosed below:

The level into which a fair value measurement is classified is determined with reference to the observability and significance of the inputs used in the valuation technique as follows:

- Level 1 valuations: Fair value measured using only Level 1 inputs i.e. unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date.
- Level 2 valuations: Fair value measured using Level 2 inputs i.e. observable inputs which fail to meet Level 1, and not using significant unobservable inputs. Unobservable inputs are inputs for which market data are not available.
- Level 3 valuations: Fair value measured using significant unobservable inputs.

#### (e) 公允價值

本集團以成本或攤餘成本計量的金融工具的賬面金額與截至2017年12月31日和2016年12月31日的公允價值沒有重大的差別，但以下金融工具除外，這些按《國際財務報告準則第13號》「公允價值衡量」中所定義金融工具的賬面金額和公允價值以及公允價值等級如下：

公允價值計量層級是根據評估方法中使用的輸入數據的可觀察性和重要性來確定劃分的具體如下：

- 第1層級估值：僅使用1級輸入數據進行計量的公允價值，即計量之日相同資產或負債的活躍市場中未經調整的報價。
- 第2層級估值：使用2級輸入數據進行計量的公允價值，即不符合1級要求且未使用不可觀察的重要輸入數據的可觀察輸入數據。不可觀察輸入數據是不存在市場數據的輸入數據。
- 第3層級估值：使用不可觀察的重要輸入數據進行計量的公允價值。

		Fair value measurement as at 31 December 2017 categorised into 於2017年12月31日公允價值計量，並分為：				
		Carrying amounts at 31 December 於12月31日 賬面價值 RMB'000 人民幣千元	Fair value at 31 December 於12月31日 公允價值 RMB'000 人民幣千元	Level 1 第一層級 RMB'000 人民幣千元	Level 2 第二層級 RMB'000 人民幣千元	Level 3 第三層級 RMB'000 人民幣千元
Long-term receivables	長期應收款項	1,783,276	1,690,112	-	1,690,112	-
Fixed rate long-term bank loans	固定利率長期銀行貸款	(1,059,954)	(1,063,934)	-	(1,063,934)	-
Corporate bonds	公司債券	(4,483,831)	(4,477,886)	-	(4,477,886)	-
Other non-current liabilities	其他非流動負債	(404,005)	(385,685)	-	(385,685)	-

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 37 財務風險管理及公允價值(續)

#### (e) Fair values (continued)

#### (e) 公允價值(續)

		Fair value measurement as at 31 December 2016 categorised into 於2016年12月31日公允價值計量，並分為：				
		Carrying amounts at 31 December 於12月31日 賬面價值 RMB'000 人民幣千元	Fair value at 31 December 於12月31日 公允價值 RMB'000 人民幣千元	Level 1 第一層級 RMB'000 人民幣千元	Level 2 第二層級 RMB'000 人民幣千元	Level 3 第三層級 RMB'000 人民幣千元
Long-term receivables	長期應收款項	2,274,893	2,008,699	-	2,008,699	-
Fixed rate long-term bank loans	固定利率長期銀行貸款	(1,155,303)	(1,160,845)	-	(1,160,845)	-
Corporate bonds	公司債券	(5,284,615)	(5,248,821)	-	(5,248,821)	-
Other non-current liabilities	其他非流動負債	(222,932)	(212,823)	-	(212,823)	-

Valuation techniques and inputs used in Level 2 fair value measurements

The fair values of financial instruments in Level 2 are estimated as the present value of contractual future cash flows, discounted at from the relevant interest rates announced by the People's Bank of China as at the end of the reporting period.

在第2層級公允價值計量中採用的評估方法和輸入數據

第2層級金融工具公允價值按當前合同未來的現金流價值並根據由中國人民銀行於截止報告期末所公佈的相關貼現利率算出的貼現值進行估計。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 37 FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)

### 37 財務風險管理及公允價值(續)

#### (f) Master netting or similar agreements

In December 2015, the Group has entered into an agreement with a supplier in connection with the compensation receivable from the supplier in respect of substandard equipment purchased by the Group. According to the agreement, the compensation receivable from the supplier and the Group's outstanding trade payables due to the supplier are aggregate into a single net amount that is payable by the supplier. The agreement meets the criteria for offsetting in the statement of financial position as the Group has currently legally enforceable right to offset recognised amounts.

The following table sets out the carrying amounts of recognised financial assets that are subject to the above agreement.

#### (f) 淨額結算或類似協議

於2015年12月，就本集團向一供貨商所購買的存在質量問題的設備所應收的賠償，本集團與該供貨商簽訂一項協議。根據該協議，應該供貨商的賠償將與本集團應付該供貨商的賬款餘額合計為一單項供貨商之應付淨額。由於本集團有實時法定可強制服從的權利以相抵已確認的金額，該協議符合於財務狀況表中相抵的條件。

下表列出上述協議下已確認之金融資產的賬面價值。

	Gross amounts of recognised financial assets	Gross amounts of recognised financial liabilities set off in the statement of financial position	Allowance for doubtable debts	Net amounts of financial (liabilities) /assets presented in the statement of financial position 於財務狀況表中 列示的金融 (負債)/資產 之淨額
	已確認的 金額資產之總額 RMB'000 人民幣千元	與財務狀況表中 被抵銷的已確認的 金額負債之總額 RMB'000 人民幣千元	壞賬撥備 RMB'000 人民幣千元	RMB'000 人民幣千元
31 December 2017 於2017年 12月31日				
Deposits, prepayments and other receivables 按金、預付款項及其他應收款項	-	(9,205)	-	(9,205)
31 December 2016 於2016年 12月31日				
Deposits, prepayments and other receivables 按金、預付款項及其他應收款項	337,615	(210,079)	(29,420)	127,536



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 38 COMMITMENTS

Commitments for the construction and acquisition of property, plant and equipment outstanding at 31 December 2017 not provided for in the financial statements were as follows:

		<b>2017</b>	2016
		<b>RMB'000</b>	RMB'000
		人民幣千元	人民幣千元
Contracted for	已訂約	<b>35,994</b>	576
Authorised but not contracted for	已授權但未訂約	<b>292,688</b>	281,910
		<b>328,682</b>	282,486

At 31 December 2017, the total future minimum lease payments under non-cancellable operating leases are payable as follows:

		<b>2017</b>	2016
		<b>RMB'000</b>	RMB'000
		人民幣千元	人民幣千元 (restated) (重述)
With 1 year	1年內	<b>15,965</b>	39,575
After 1 year but with 5 years	1年後但5年內	<b>10,129</b>	14,399
		<b>26,094</b>	53,974

The Group leases certain buildings through non-cancellable operating leases. These operating leases do not contain provisions for contingent lease rentals. None of the rental agreements contain escalation provisions that may require higher future rental payments.

合併財務報表中未列出的於2017年12月31日關於建造及購買物業、廠房及設備的資本承擔如下所述：

於2017年12月31日，根據不可解除的經營租賃，未來應付的最低租賃付款總額如下所述：

本集團通過不可解除的經營租賃來租賃某些樓宇。該經營租賃合同不包含有關或有租金的條款。租賃合同中亦不包含將來可能需要交納更多應付租金款額的增值條款。

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 39 CONTINGENT LIABILITIES

#### (a) Guarantees issued

At 31 December 2017, the Group issued financial guarantees to banks in respect of the bank loans granted to related parties and provided bid and performance guarantees to customers and the Company's subsidiaries for construction contracts and sale of wind turbines as follows:

		2017	2016
		<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元
Bid guarantees provided to:	向如下公司提供的投標擔保：		
– related parties under Guodian	– 國電下屬的關聯方	4,962	32,874
– third parties	– 第三方	10,154	15,880
Performance guarantees provided to:	向如下公司提供的履約擔保：		
– related parties under Guodian	– 國電下屬的關聯方	1,193,003	1,569,812
– third parties	– 第三方	1,546,471	1,298,079
		<b>2,754,590</b>	2,916,645

#### (b) Litigation contingencies

Except for disclosure in Note 31, the Group is the defendant in certain lawsuits as well as the plaintiff in other proceedings arising in the ordinary course of business.

While the outcomes of the above contingencies lawsuits or other proceedings cannot be determined at present, management believes that any results will not have a material adverse effect on the financial position, operating results and business of the Group. No provision has been recognised by the Group for these claims.

### 39 或有負債

#### (a) 擔保款項

於2017年12月31日，由於銀行向關聯方提供的貸款而使本集團向銀行作出的金融擔保、本集團關於建造合同及風機銷售而向客戶作出的投標及履約擔保如下所述：

#### (b) 訴訟或有事項

除附註31中披露事項外，本集團是某些法律訴訟的被告，也是產生於日常經營過程中的其他訴訟程序的原告。

雖然上述或有事項，訴訟或其他法律程序的結果目前仍無法確定，但管理層相信任何因此產生的結果不會對本集團的財務狀況、經營業績及業務產生重大不利影響。本集團未因此索賠確認預計負債。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 40 MATERIAL RELATED PARTY TRANSACTIONS

### 40 重大關聯方交易

#### (a) Transactions with related parties

The Group is part of a larger group of companies under Guodian and has significant transactions and relationships with Guodian and related parties under Guodian. Principal transactions which were carried out in the ordinary course of business are as follows:

#### (a) 與關聯方的交易

本集團是國電下屬的眾多公司的一部份，與國電及國電下屬的關聯方之間具有重大交易量及重要關係。在正常業務過程中與關聯方的其他主要交易如下所述：

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元 (restated) (重述)
<i>Sale of goods to</i>	<i>出售商品予</i>		
– Guodian	– 國電	<b>35,959</b>	5,648
– related parties under Guodian	– 國電下屬的關聯方	<b>3,141,425</b>	6,284,581
– associates	– 聯營公司	<b>25,312</b>	8,006
<i>Construction service provided to</i>	<i>提供建造服務予</i>		
– related parties under Guodian	– 國電下屬的關聯方	<b>3,598,343</b>	3,726,298
– associates	– 聯營公司	<b>46,557</b>	33,001
<i>Service provided to</i>	<i>提供服務予</i>		
– related parties under Guodian	– 國電下屬的關聯方	<b>320,640</b>	309,197
– associates	– 聯營公司	–	47,110
<i>Lease to</i>	<i>出租予</i>		
– related parties under Guodian	– 國電下屬的關聯方	<b>757,693</b>	713,479
<i>Rent from</i>	<i>授租自</i>		
– related parties under Guodian	– 國電下屬的關聯方	<b>11,704</b>	22,455
<i>Purchase of goods from</i>	<i>購買商品自</i>		
– related parties under Guodian	– 國電下屬的關聯方	<b>116,101</b>	309,104
– associates	– 聯營公司	<b>3,882</b>	39,919
<i>Service provided by</i>	<i>服務提供自</i>		
– related parties under Guodian	– 國電下屬的關聯方	<b>55,050</b>	55,324
<i>Working capital obtained from</i>	<i>週轉資金取得自</i>		
– Guodian	– 國電	–	600,000
<i>Sale of property, plant and equipment and inventories to</i>	<i>銷售物業、廠房、設備以及存貨予</i>		
– related parties under Guodian	– 國電下屬的關聯方	–	2,603,334

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 40 MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED) 40 重大關聯方交易(續)

#### (a) Transactions with related parties (continued)

#### (a) 與關聯方的交易(續)

		2017 二零一七年 RMB'000 人民幣千元	2016 二零一六年 RMB'000 人民幣千元 (restated) (重述)
<i>Working capital repaid to</i>	<i>償還週轉資金予</i>		
– related parties under Guodian	– 國電下屬的關聯方	9	–
– associates	– 聯營公司	–	46,156
<i>Working capital provided to</i>	<i>提供週轉資金予</i>		
– associates	– 聯營公司	44,269	118,339
<i>Working capital repaid from</i>	<i>償還週轉資金自</i>		
– associates	– 聯營公司	512,546	181,048
<i>Loans received from</i>	<i>貸款借取自</i>		
– Guodian	– 國電	600,000	600,000
– related parties under Guodian	– 國電下屬的關聯方	350,000	104,000
<i>Loans repaid to</i>	<i>償還貸款予</i>		
– Guodian	– 國電	600,000	600,000
– related parties under Guodian	– 國電下屬的關聯方	260,500	3,000
<i>Interest expenses</i>	<i>利息費用</i>		
– Guodian	– 國電	19,855	21,902
– related parties under Guodian	– 國電下屬的關聯方	10,439	3,527
<i>Interest income</i>	<i>利息收入</i>		
– related parties under Guodian	– 國電下屬的關聯方	39,406	29,886
<i>Net deposits placed with</i>	<i>存入的存款淨額</i>		
– related parties under Guodian	– 國電下屬的關聯方	32,218	1,949,326
<i>Capital investment in</i>	<i>資本投資予</i>		
– associates	– 聯營公司	–	127,850
<i>Dividend paid to</i>	<i>支付股息予</i>		
– related parties under Guodian	– 國電下屬的關聯方	38,489	10,500
<i>Dividend received from</i>	<i>收取股息自</i>		
– related parties under Guodian	– 國電下屬的關聯方	16,600	14,260
– associates	– 聯營公司	81,105	34,539
<i>Disposal of a subsidiary to</i>	<i>處置附屬公司予</i>		
– a related party under Guodian	– 國電下屬的關聯方	253,644	8,442

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 40 MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED)

### 40 重大關聯方交易(續)

#### (b) Outstanding balances, including commitment, with related parties

Details of the outstanding balances with related parties are set out in Notes 21, 23, 24, 25, 27, 29, 30, 31 and 32.

At 31 December 2017, the Group's commitments with related parties that have been contracted for but not yet been recognised in these financial statements were as follows:

	2017 <i>RMB'000</i> 人民幣千元	2016 <i>RMB'000</i> 人民幣千元
<i>Sale of goods to</i> 出售商品予 – related parties under Guodian 一國電下屬的關聯方	<b>4,575,958</b>	8,497,809
<i>Construction service to be provided to</i> 提供建造服務予 – related parties under Guodian 一國電下屬的關聯方	<b>3,674,878</b>	4,814,671

#### (b) 與關聯方的餘額、包括約定

附註21、23、24、25、27、29、30、31與32對關聯方的餘額進行了詳細說明。

於2017年12月31日，本集團已訂約但尚未在財務報表中確認的對關聯方的約定情況如下：

#### (c) Contributions to defined contribution retirement plans

The Group participates in various defined contribution retirement plans organised by relevant local government authorities and Guodian for its staff. As at 31 December 2017, there was no material outstanding contribution to post-employment benefit plans. Details of the defined contribution retirement plans are set out in Note 7(a).

#### (d) Transactions with other government-related entities in the PRC

The Group operates in an economic regime currently dominated by entities directly or indirectly controlled, jointly controlled or significantly influenced by the PRC government and numerous government authorities and agencies (collectively referred to as “**government-related entities**”). Guodian, the parent and ultimate holding company of the Company, is a PRC state-owned enterprise and these government-related entities are also considered as related parties of the Group in this respect.

Apart from transactions with Guodian and related parties under Guodian mentioned above, the Group conducts a majority of its business activities with other government-related entities in the ordinary course of business. These transactions are carried out at terms similar to those that would be entered into with non-government-related entities.

#### (c) 界定供款退休計劃的供款

本集團參加了相關政府機構及國電內部組織的各種界定供款退休計劃。於2017年12月31日，在退休福利計劃項下，沒有重大未支付供款。附註7(a)對界定供款退休計劃進行了詳細說明。

#### (d) 與中國其他政府相關實體之間的交易

在本集團目前從業的經濟體制之下，主導企業是由中國政府及各種政府機關及機構直接或間接控制、聯合控制或重大影響的實體(合稱為「**政府相關實體**」)。國電(本公司的母公司及最終控股公司)是中國的國有企業，此等政府相關實體因此也視為本集團的關聯方。

除上述與國電及國電下屬關聯方之間的交易之外，在正常業務過程中，本集團大部份業務活動是與其他政府相關實體交易的。此等交易的執行條款與非政府相關實體的交易條款相似。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 40 MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED)

#### (d) Transactions with other government-related entities in the PRC (Continued)

The Group prices its services and products based on the commercial negotiations. The Group has also established its approval process for sales of goods, provision of services, purchase of products and services and its financing policy for borrowings. Such approval process and financing policy do not depend on whether the counterparties are government-related entities or not.

Having considered the potential for transactions to be impacted by related party relationships, the Group's approval processes and financing policy, and what information would be necessary for an understanding of the potential effect of the relationship on these financial statements, the directors of the Company are of the opinion that further information about the following transactions that are collectively significant is required for disclosure:

– Sales of goods and provision of construction services;

The Group sells its goods and provide construction services to a wide range of government-related power companies and manufacturing enterprises. These transactions individually are not significant to the Group.

– Deposits and borrowings;

The Group deposits most of its cash in government-related financial institutions, and also obtains short-term and long-term loans from these financial institutions in the ordinary course of business. The interest rates of the bank deposits and loans are regulated by the People's Bank of China.

– Purchase of materials and receiving construction services; and

The Group purchases materials and receives construction services from a wide range of government-related manufacturing enterprises and construction contractors. These transactions individually are not significant to the Group.

### 40 重大關聯方交易(續)

#### (d) 與中國其他政府相關實體之間的交易(續)

本集團根據市場談判條件對服務及產品定價。關於貨物銷售、服務提供、產品及服務的購買，本集團已建立了審批程序，並建立了關於借款方面的融資政策。此類審批程序及融資政策並不考慮交易對方是否是政府相關實體。

考慮到關聯方關係對交易的潛在影響、本集團的審批程序以及融資政策，以及為了解關聯關係對財務報表的潛在影響而需要的信息，董事們認為，對於具有整體重大意義的如下交易，需要披露進一步的詳細信息：

– 貨物銷售及施工服務的提供：

本集團向各種政府相關電力公司及製造企業銷售貨物並提供建造服務。此筆交易個別而言對本集團並不重大。

– 存款及借款：

本集團的大部份現金存於政府相關的金融機構，且在正常業務過程中也從此類金融機構獲取短期及長期貸款。銀行存款及貸款利率由中國人民銀行制定。

– 材料購買及獲得施工服務；及

本集團向各種政府相關製造企業購買材料並向各種政府相關建造承包商獲取建造服務。此等具體交易個別而言對本集團不重大。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 40 MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED)

### 40 重大關聯方交易(續)

#### (d) Transactions with other government-related entities in the PRC (Continued)

- Service concession arrangements;

The Group entered into a number of service concession agreements with local governments to construct and operate water treatment plants during the concession period. All transactions under the service concession arrangements were made with local governments and carried out at terms set out in the respective service concession arrangements.

#### (e) Key management personnel remuneration

Key management personnel are those persons holding positions with authority and responsibility for planning, directing and controlling the activities of the Group, directly or indirectly, including the Company's directors.

Remuneration for key management personnel, including amounts paid to the Company's directors as disclosed in Note 9, and certain of the highest paid employees as disclosed in Note 10, is as follows:

		2017	2016
		<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元
Salaries and other emoluments	工資及其他薪金	6,389	4,679
Discretionary bonus	酌情花紅	1,989	1,389
Retirement scheme contributions	退休計劃供款	755	763
		<b>9,133</b>	6,831

#### (d) 與中國其他政府相關實體之間的交易(續)

- 服務特許權安排。

本集團已與當地政府簽訂了多項特許權服務協議，在特許期限之內，負責建設以及經營污水處理廠。服務特許權協議項下的所有交易均是與地方政府作出的，且在各自的特許權安排中規定了交易執行條款。

#### (e) 主要管理人員薪酬

主要管理人員指對其所處職位具有權力與責任、可直接或間接地規劃、領導以及控制本集團的活動的個人，包括本公司的董事們。

關於主要管理人員的薪酬如下，包括附註9中披露的支付給本公司董事們的金額，以及附註10中披露的若干薪酬最高的僱員：



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 41 SERVICE CONCESSION ARRANGEMENT

The Group entered into a number of service concession agreements with local governments (the “Grantors”) to construct and operate water treatment plants during the concession period, which is normally for 20-30 years of operation. The Group is responsible for construction and maintenance of water treatment plants during the concession period. At the end of the concession period, the Group needs to transfer water treatment plants to the Grantors at nil consideration. With respect to these service concession arrangements, the Group has evaluated and assessed that these arrangements fall under the scope of IFRIC 12, *Service Concession Arrangements* (“IFRIC 12”).

In accordance with IFRIC 12, the Group accounts for the revenue and costs relating to construction services in accordance with the accounting policy set out in Note 2(p). The consideration received or receivables in exchange for the construction services is recognised as a financial asset for an unconditional contractual right to receive cash or another financial asset from or at the direction of the Grantor for the construction services and/or an intangible asset for a right or a license to charge users of the water treatment service.

The Group has recognised intangible assets (Note 16) and service concession receivables (Note 21) related to the service concession arrangement representing the right the Group received to charge a fee for water treatment or sale of reclaimed water and the guaranteed minimum payment during the operating period of the water treatment plants respectively.

Services concession construction revenue recorded during the year amounted to RMB17,246,000 (2016: RMB3,912,000), which represents the revenue recognised during the construction stage of the service concession period. The Group has recognised profit of RMB3,942,000 (2016: RMB419,000) for the construction of water treatment plants.

### 41 服務特許權安排

本集團與地方政府(「授權方」)簽訂了多項服務特許權協議，在特許權期限之內，負責建設及營運水處理廠，該期限一般為20-30年。在特許權期限之內，本集團負責水處理廠的施工建設以及維護。特許權期滿之後，本集團需要以零對價將水處理廠轉讓給授權方。關於此等服務特許權安排，經本集團評估，此等安排符合《國際財務報告準則詮釋》第12號—「服務特許權安排」(「《國際財務報告準則詮釋》第12號」)。

根據《國際財務報告準則詮釋》第12號規定，本集團根據附註2(p)中陳述的會計政策處理建造服務相關的收入及成本。建造服務的已收或應收對價，就自授權方或按授權方的指示收取現金或其他金融資產的不附帶條件契約權確認為一項金融資產，和/或就向水處理服務之用戶收取費用的權利或許可確認為一項無形資產。

關於服務特許權安排，本集團已確認無形資產(附註16)及服務特許權應收款項(附註21)，分別表示本集團收取水處理費用或銷售中水的權利，以及水處理廠運營期間的保證最低付款額。

本年度服務特許權建造收入為人民幣17,246,000元(2016年：人民幣3,912,000元)，即為在服務特許權期間的建造階段所確認的收入。本集團已確認有關建造水處理廠的利潤人民幣3,942,000元(2016年：人民幣419,000元)。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 42 ACQUISITION OF A SUBSIDIARY UNDER COMMON CONTROL

During the year ended 31 December 2017, the Company entered into an equity transfer agreement with Guodian Science and Technology Research Institute (“GSTRI”), a subsidiary of Guodian. Pursuant to the agreement, the Company agreed to acquire 100% of the equity interests in Lantian Company from GSTRI at a cash consideration of RMB48,157,000.

As the Company and Lantian Company are under common control of Guodian Group, the above acquisition has been recorded as a business combination under common control. The assets and liabilities of Lantian Company have been recognised at the carrying amounts recognised previously in Guodian’s consolidated financial statements. The consolidated financial statements of the Group have been restated as if the combination had occurred prior to the start of the earliest period presented.

Recognised amounts of carrying value of identifiable assets acquired and liabilities assumed at 31 October 2017 (the “**acquisition date**”) are as follows:

### 42 收購同一控制下的附屬公司

截至2017年12月31日止的年度，本公司與國電集團附屬公司國電科學技術研究院(「**國電科技研究院**」)簽訂一項股權轉讓協議。據此，本公司同意以現金人民幣48,156,500元的對價從國電科技研究院收購藍天公司100%股權。

由於本公司和藍天公司都處於國電集團的同一控制下，上述收購被確認為一項同一控制下的企業合併。藍天公司的各項資產及負債按往期在國電集團合併財報中確認的賬面價值確認。本集團合併財報已按照合併發生在列報的最早期的假設重新編製。

於2017年10月31日(收購日)，收購的可識別資產和負債的賬面價值確認金額如下：

		<i>RMB'000</i> 人民幣千元
Property, plant and equipment	物業、廠房及設備	4,333
Intangible assets	無形資產	756
Deferred tax assets	遞延稅項資產	799
Inventories	存貨	9,236
Trade and bills receivables	應收賬款及票據	21,908
Deposits, prepayments and other receivables	按金、預付款項及其他應收款項	2,535
Tax recoverable	可收回稅項	19
Cash at bank and in hand	銀行存款及庫存現金	25,259
Trade and bills payables	應付賬款及票據	(19,034)
Other payables	其他應付款項	(23,834)
Deferred income	遞延收入	(3,475)
<b>Net assets</b>	<b>資產淨額</b>	<b>18,502</b>

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 42 ACQUISITION OF A SUBSIDIARY UNDER COMMON CONTROL (CONTINUED) 42 收購同一控制下的附屬公司(續)

Details of the restatement of the Group's consolidated financial statements are as follows:

本集團合併財報重新編製的詳情如下：

		<b>The Group (as previously reported)</b>	<b>Lantian Company</b>	<b>The Group (as restated)</b>
		本集團(往期披露)	藍天公司	本集團(重述)
		<i>RMB'000</i>	<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元	人民幣千元
Results of operations for the year ended 31 December 2016:	截至2016年12月31日止年度的經營成果：			
Profit from operations	經營利潤	1,012,160	19,078	1,031,238
Profit for the year from continuing operations	本年來自可持續經營業務之利潤	387,540	18,300	405,840
Profit for the year	本年利潤	253,451	18,300	271,751
Net profit attributable to:	淨利潤歸屬於：			
– Equity shareholders of the Company	– 本公司權益股東	302,372	18,300	320,672
– Non-controlling interests	– 非控股權益	(48,921)	–	(48,921)
Basic and diluted earnings per share (expressed in RMB cent)	每股基本及攤薄盈利 (以人民幣分列示)	5.00	0.29	5.29
Consolidated statement of financial position as at 31 December 2016:	於2016年12月31日的合併財務狀況表：			
Non-current assets	非流動資產	11,878,875	6,213	11,885,088
Current assets	流動資產	28,221,827	111,464	28,333,291
Current liabilities	流動負債	25,448,837	40,398	25,489,235
Non-current liabilities	非流動負債	6,656,655	3,934	6,660,589

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 43 DISPOSAL OF EQUITY INTERESTS IN SUBSIDIARIES 43 處置附屬公司的權益

During the year ended 31 December 2016, the Group entered into sale and purchase agreements for sales of equity interests in certain subsidiaries, mainly including the sale of the 85.8% equity interest in Guodian United Power Technology (Yixing) Co., Ltd. (“**Yixing Company**”), the 51% equity interests in Beijing Longyuan Environmental Engineering Co., Ltd. (“**Beijing Longyuan**”), the 51% equity interests in Guodian Zhaojing Optoelectronics Technology Jiangsu Co., Ltd. (“**Zhaojing Company**”) and 100% equity interests in Guodian United Power Technology (Changchun) Co., Ltd. (“**Changchun Company**”). All of the assets and liabilities had been presented as disposal groups classified as held for sale in the consolidated financial statements at 31 December 2016.

The above equity interests in certain subsidiaries have been disposed for total consideration of RMB1,035,168,000 during the year ended 31 December 2017.

Effect of disposals of subsidiaries on the consolidated statement of cash flows of the Group for the year ended 31 December 2017 is as below:

截至2016年12月31日止年度，本集團簽訂了買賣協議以出售若干附屬公司的股權，主要包括出售國電聯合動力技術(宜興)有限公司(「**宜興公司**」) 85.8%股權，北京龍源環保工程有限公司(「**北京龍源**」) 51%股權，國電兆晶光電科技江蘇有限公司(「**兆晶公司**」) 51%股權和國電聯合動力技術(長春)有限公司(「**長春公司**」) 100%股權。在截止2016年12月31日的合併財務報表中，所有資產和負債被作為處置組，劃分為持有待售。

上述若干附屬公司的股權在截至2017年12月31日止年度已處置完畢，總對價為人民幣1,035,168,000元。

處置附屬公司對截至2017年12月31日止年度本集團的合併現金流量表的影響如下：

	<i>RMB'000</i> 人民幣千元
Consideration received, satisfied in cash 收到對價，現金支付	769,505

# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 44 COMPANY-LEVEL STATEMENT OF FINANCIAL POSITION 44 公司層面的財務狀況表

		2017 <b>RMB'000</b> 人民幣千元	2016 <b>RMB'000</b> 人民幣千元
<b>Non-current assets</b>	<b>非流動資產</b>		
Property, plant and equipment	物業、廠房及設備	<b>1,099,835</b>	1,150,022
Investment properties	投資性物業	<b>897,051</b>	936,048
Intangible assets	無形資產	<b>23,070</b>	23,424
Interests in subsidiaries	對附屬公司的投資	<b>4,185,074</b>	4,088,325
Interests in associates	對聯營公司的投資	<b>88,600</b>	89,600
Other equity investments	其他權益投資	<b>156,070</b>	156,070
Other non-current assets	其他非流動資產	<b>3,074</b>	5,654
<b>Total non-current assets</b>	<b>非流動資產總額</b>	<b>6,452,774</b>	6,449,143
<b>Current assets</b>	<b>流動資產</b>		
Inventories	存貨	<b>171</b>	151
Trade and bills receivables	應收賬款及票據	<b>485,636</b>	242,141
Deposits, prepayments and other receivables	按金、預付款項及其他應收款項	<b>2,648,402</b>	3,262,493
Cash at bank and in hand	銀行存款及庫存現金	<b>272,246</b>	180,028
Assets held for sale	持有待售資產	<b>462,633</b>	760,441
<b>Total current assets</b>	<b>流動資產總額</b>	<b>3,869,088</b>	4,445,254
<b>Current liabilities</b>	<b>流動負債</b>		
Borrowings	借款	<b>4,212,812</b>	2,726,677
Trade and bills payables	應付賬款及票據	<b>13,278</b>	13,135
Other payables	其他應付款項	<b>227,504</b>	477,501
<b>Total current liabilities</b>	<b>流動負債總額</b>	<b>4,453,594</b>	3,217,313
<b>Net current (liabilities)/assets</b>	<b>流動(負債)/資產</b>	<b>(584,506)</b>	1,227,941
<b>Total assets less current liabilities</b>	<b>資產總額減流動負債</b>	<b>5,868,268</b>	7,677,084
<b>Non-current liability</b>	<b>非流動負債</b>		
Borrowings	借款	<b>3,321,018</b>	4,270,939
<b>Total non-current liabilities</b>	<b>非流動負債總額</b>	<b>3,321,018</b>	4,270,939
<b>NET ASSETS</b>	<b>資產淨額</b>	<b>2,547,250</b>	3,406,145
<b>CAPITAL AND RESERVES</b>	<b>資本及儲備</b>		
Share capital	股本	<b>6,063,770</b>	6,063,770
Reserves	儲備	<b>(3,516,520)</b>	(2,657,625)
<b>TOTAL EQUITY</b>	<b>權益總額</b>	<b>2,547,250</b>	3,406,145



# NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

## 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 45 PARENT AND ULTIMATE HOLDING COMPANY

At 31 December 2017, the directors of the Company consider its parent and ultimate holding company of the Group to be Guodian, which is a state-owned enterprise established in the PRC. Guodian does not produce financial statements available for public use.

### 46 NON-ADJUSTING EVENTS AFTER THE REPORTING PERIOD

On 5 February 2018, Guodian and China Energy Investment Corporation Limited (“China Energy”, formerly China Shenhua Energy Company Limited) formally entered into a consolidation agreement to start the process of joint reorganisation. Upon the completion of the joint reorganisation, China Energy will be the parent and ultimate holding company of the Group.

### 47 COMPARATIVE FIGURES

Certain comparative figures have been adjusted to conform to current year’s presentation.

### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017

Up to the date of issue of these financial statements, the IASB has issued a number of amendments, new standards and interpretations which are not yet effective for the year ended 31 December 2017 and which have not been adopted in these financial statements. These include the following which may be relevant to the Group.

### 45 母公司及最終控股公司

於2017年12月31日，本公司的董事們認為，本集團的母公司及最終控股公司為國電，國電是在中國成立的一家國有企業。國電不編製公開使用的財務報表。

### 46 報告期後非調整事項

於2018年2月5日，國電集團和國家能源投資集團有限責任公司(「國家能源集團」，前身為神華集團有限責任公司)正式簽署合併協議，開始合併重組。合併重組完成後，國家能源集團將成為本集團母公司和最終控股公司。

### 47 對比數據

為滿足本期列示要求，部分對比數據已經調整。

### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響

截至本財務報表刊發日期為止，國際會計準則理事會已發佈於截至二零一七年十二月三十一日止年度尚未生效的若干修訂、新訂準則及解釋，其在本財務報表內尚未採用。該等準則包括下列可能與本集團有關的準則。

	Effective for accounting periods beginning on or after 於下列日期或之後開始的年度期間生效
IFRS 9, <i>Financial instruments</i> 國際財務報告準則第9號，金融工具	1 January 2018 二零一八年一月一日
IFRS 15, <i>Revenue from contracts with customers</i> 國際財務報告準則第15號，來自客戶合約之收入	1 January 2018 二零一八年一月一日
Amendments to IAS 40, <i>Investment property: Transfers of investment property</i> 國際會計準則第40號修訂：投資性房地產：投資性房地產的轉移	1 January 2018 二零一八年一月一日
<i>Annual improvements to IFRSs 2015–2017 Cycle</i> 國際財務報告準則2015–2017年度改進	1 January 2018 二零一八年一月一日



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017 (CONTINUED)

### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響(續)

	<b>Effective for accounting periods beginning on or after 於下列日期或 之後開始的 年度期間生效</b>
IAS 28, <i>Investments in Associates and Joint Ventures</i> 國際會計準則第28號，於聯營公司及合營公司之投資	1 January 2018 二零一八年一月一日
IFRS 16, <i>Leases</i> 國際財務報告準則第16號，租賃	1 January 2019 二零一九年一月一日
IFRIC 23, <i>Uncertainty over income tax treatments</i> 國際財務報告準則解釋第23號，具有不確定性的所得稅處理	1 January 2019 二零一九年一月一日

The Group is in the process of making an assessment of what the impact of these amendments, new standards and interpretations is expected to be in the period of initial application. So far the Group has identified some aspects of the new standards which may have a significant impact on the consolidated financial statements. Further details of the expected impacts are discussed below. The actual impacts upon the initial adoption of the standards may differ as the assessment completed to date is based on the information currently available to the Group, and further impacts may be identified before the standards are initially applied in the Group's interim financial report for the six months ending 30 June 2018. The Group may also change its accounting policy elections, including the transition options, until the standards are initially applied in that financial report.

#### IFRS 9, Financial instruments

IFRS 9 will replace the current standard on accounting for financial instruments, IAS 39, Financial instruments: Recognition and measurement. IFRS 9 introduces new requirements for classification and measurement of financial assets, including the measurement of impairment for financial assets and hedge accounting. On the other hand, IFRS 9 incorporates without substantive changes the requirements of IAS 39 for recognition and derecognition of financial instruments and the classification and measurement of financial liabilities.

本集團正在評估預期這些的修訂、新訂準則及詮釋於首次應用期間的影響。迄今為止本集團已識別新訂準則的若干方面可能對綜合財務報表造成重大影響。有關預期影響的進一步詳情於下文論述。該等準則於首次採納時的實際影響可能不同，原因是至今完成的評估乃基於本集團現時可得資料作出，而進一步影響可能於該等準則本集團截至二零一八年六月三十日止六個月的中期財務報告首次應用前確認。本集團亦可能改變其會計政策選擇，包括過渡選擇，直至該等準則於該中期財務報告內首次應用為止。

#### 國際財務報告準則第9號，金融工具

國際財務報告準則第9號，財務工具國際財務報告準則第9號將取代有關財務工具會計處理方法的現有準則國際會計準則第39號財務工具：確認及計量。國際財務報告準則第9號引入分類及計量金融資產的新規定，包括計量金融資產減值及對沖會計。另一方面，國際財務報告準則第9號納入國際會計準則第39號有關確認及終止確認財務工具以及分類及計量財務負債的規定，並無作出大幅變動。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
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#### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017 (CONTINUED)

##### IFRS 9, Financial instruments (continued)

IFRS 9 is effective for annual periods beginning on or after 1 January 2018 on a retrospective basis. The Group plans to use the exemption from restating comparative information and will recognise any transition adjustments against the opening balance of equity at 1 January 2018.

Expected impacts of the new requirements on the Group's financial statements are as follows:

##### (a) Classification and measurement

IFRS 9 contains three principal classification categories for financial assets measured at (1) amortised cost, (2) fair value through profit or loss ("FVTPL") and (3) fair value through other comprehensive income ("FVTOCI"):

- The classification for debt instruments is determined based on the entity's business model for managing the financial assets and the contractual cash flow characteristics of the asset. If a debt instrument is classified as FVTOCI then interest revenue, impairment and gains/losses on disposal will be recognised in profit or loss.
- For equity securities, the classification is FVTPL regardless of the entity's business model. The only exception is if the equity security is not held for trading and the entity irrevocably elects to designate that security as FVTOCI. If an equity security is designated as FVTOCI then only dividend income on that security will be recognised in profit or loss. Gains, losses and impairments on that security will be recognised in other comprehensive income without recycling.

The Group has assessed that its financial assets currently measured at amortised cost will continue with their respective classification and measurements upon the adoption of IFRS 9.

#### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響(續)

##### 國際財務報告準則第9號，金融工具(續)

國際財務報告準則第9號於二零一八年一月一日或之後開始之年度期間追溯生效。本集團計劃採用豁免重列比較資料，並將就二零一八年一月一日之權益期初結餘確認任何過渡調整。

新規定對本集團財務報表的預期影響如下：

##### (a) 分類及計量

國際財務報告準則第9號載有三個主要金融資產分類類別：(1)以攤銷成本計量、(2)按公允價值計入損益(FVTPL)及(3)按公允價值計入其他全面收益(FVTOCI)。

- 債務工具的分類根據實體管理金融資產的業務模式及資產的合同現金流量特徵而釐定。倘債務工具分類為按公允價值計入其他綜合收益，則實際利息、減值及出售收益／虧損將於損益中確認。
- 權益證券均分類為按公允價值計入損益，而不受實體業務模式影響。唯一例外情況為倘權益證券並非持作買賣且實體不可撤回地選擇將該證券指定為按公允價值計入其他綜合收益。倘權益證券被指定為按公允價值計入其他綜合收益，則僅於損益確認該證券的股息收入。該證券的利得、損失及減值會於其他綜合收益中確認且不能重新使用。

本集團已評估其現時按攤銷成本計量的金融資產將於採納國際財務報告準則第9號後維持彼等各自之分類及計量。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

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### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017 (CONTINUED)

#### IFRS 9, Financial instruments (continued)

##### (a) Classification and measurement (continued)

With respect to the Group's financial assets currently classified as "available-for-sale", these are investments in equity securities which the Group has the option to irrevocably designate as FVTOCI (without recycling) on transition to IFRS 9. The Group plans to elect this designation option for any of the investments held on 1 January 2018.

The classification and measurement requirements for financial liabilities under IFRS 9 are largely unchanged from IAS 39, except that IFRS 9 requires the fair value change of a financial liability designated at FVTPL that is attributable to changes of that financial liability's credit risk to be recognised in other comprehensive income (without reclassification to profit or loss). The Group currently does not have any financial liabilities designated at FVTPL and therefore this new requirement will not have any impact on the Group on adoption of IFRS 9.

##### (b) Impairment

The new impairment model in IFRS 9 replaces the "incurred loss" model in IAS 39 with an "expected credit loss" model. Under the expected credit loss model, it will no longer be necessary for a loss event to occur before an impairment loss is recognised. Instead, an entity is required to recognise and measure either a 12-month expected credit loss or a lifetime expected credit loss, depending on the asset and the facts and circumstances. The Group expects that the application of the expected credit loss model may result in earlier recognition of credit losses. Based on a preliminary assessment for financial assets as at 31 December 2017, if the Group were to adopt the new impairment requirements at 31 December 2017, accumulated impairment loss at that date would be increased as compared with that recognised under IAS 39. However, the Group does not expect the new standard will have a significant impact on the opening balances of net assets and retained profits at 1 January 2018.

### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響(續)

#### 國際財務報告準則第9號，金融工具(續)

##### (a) 分類及計量(續)

目前集團中被稱為「可供出售」的金融資產，為股權證券的投資，集團有權在國際財務報告準則第9號過渡期時選擇不可撤銷地指定為按公允價值計入損益(不能重新使用)。集團計劃在2018年1月1日持有的任何投資中選擇這個指定方案。

與國際會計準則第39號相比，國際財務報告準則第9號下的金融負債計量和分類要求大體上未發生改變，除了國際財務報告準則第9號要求，歸屬於該金融負債信用風險變動的、指定歸為FVTPL類的金融負債的公平值變動，在其他綜合收益中確認(不重新分類至損益)。本集團當前不擁有任何歸為按公允價值計入損益類的金融負債，因此，該新要求不會對本集團採用國際財務報告準則第9號產生任何影響。

##### (b) 減值

國際財務報告準則第9號之新減值模式以「預期信貸虧損」模式取代國際會計準則第39號之「已產生虧損」模式。根據預期信貸虧損模式，其將不再需要在確認減值虧損前發生虧損事件。相反，一間實體須確認並計量12個月之預期信貸虧損或可使用年期內之預期信貸虧損，惟視乎資產、事實及情況而定。本集團預期應用預期信貸虧損模式將導致提前確認信貸虧損。根據就金融資產於二零一七年十二月三十一日之初步評估，倘本集團於二零一七年十二月三十一日採納新減值規定，於該日之累計減值虧損與按國際會計準則第39號予以確認之累計減值虧損相信。因此，本集團預期新準則將不會對於二零一八年一月一日資產淨值及保留溢利之期初結餘有重大影響。

## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017 (CONTINUED)

#### IFRS 15, Revenue from contracts with customers

IFRS 15 establishes a comprehensive framework for recognising revenue from contracts with customers. IFRS 15 will replace the existing revenue standards, IAS 18, *Revenue*, which covers revenue arising from sale of goods and rendering of services, and IAS 11, *Construction contracts*, which specifies the accounting for revenue from construction contracts.

Based on the assessment completed to date, the Group has identified the following areas which are expected to be affected:

#### (a) Timing of revenue recognition

The Group's revenue recognition policies are disclosed in Note 2(x). Currently, revenue arising from construction contracts and the provision of services is recognised over time, whereas revenue from the sale of goods is generally recognised when the risks and rewards of ownership have passed to the customers.

Under IFRS 15, revenue is recognised when the customer obtains control of the promised good or service in the contract. IFRS 15 identifies 3 situations in which control of the promised good or service is regarded as being transferred over time:

- (i) When the customer simultaneously receives and consumes the benefits provided by the entity's performance, as the entity performs;
- (ii) When the entity's performance creates or enhances an asset (for example work in progress) that the customer controls as the asset is created or enhanced;
- (iii) When the entity's performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date.

### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響(續)

#### 國際財務報告準則第15號，來自客戶合約之收入

國際財務報告準則第15號建立了確認與客戶的合約產生的收入的全面框架。國際財務報告準則第15號將取代現有收入準則，即國際會計準則第18號收入(涵蓋銷售貨物及提供服務所產生的收入)及國際會計準則第11號建造合同(訂明建造合同收入的會計處理方法)。

根據迄今完成之評估，本集團已識別下列領域很有可能受到影響：

#### (a) 確認收入的時間

本集團的收入確認政策於附註2(x)所商討。目前，建造合同和提供服務產生的收入於一段時間內確認，而銷售貨品產生的收入一般於風險及所有權回報已轉移至客戶時確認。

根據國際財務報告準則第15號，收入於客戶取得合約中已約定貨物或服務的控制權時確認。國際財務報告準則第15號確認三項情況，其中已約定貨物或服務的控制權被視為時間上轉移：

- (i) 當客戶同時接收及耗用由實體的表現(由實體進行)所提供的利益時；
- (ii) 當實體的表現創造或增加一項資產(例如在建工程)時，客戶的控制權作為所創造或增加的資產；
- (iii) 當實體的表現並無創造對實體而言可替代使用的一項資產，及該實體對於迄今完成的表現具有可強制執行的付款權。





## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017 (CONTINUED)

#### IFRS 15, Revenue from contracts with customers (Continued)

##### (a) Timing of revenue recognition (continued)

If the contract terms and the entity's activities do not fall into any of these 3 situations, then under IFRS 15 the entity recognises revenue for the sale of that good or service at a single point in time, being when control has passed. Transfer of risks and rewards of ownership is only one of the indicators that will be considered in determining when the transfer of control occurs.

The Group has assessed that the new revenue standard is not likely to have significant impact on how it recognises revenue for sale of goods, construction contracts and rendering of services.

##### (b) Significant financing component

IFRS 15 requires an entity to adjust the transaction price for the time value of money when a contract contains a significant financing component, regardless of whether the payments from customers are received significantly in advance or in arrears.

Currently, the Group would only apply such a policy when payments are significantly deferred, which is currently not common in the Group's arrangements with its customers.

Currently, the Group does not apply such a policy when payments are received in advance, which are not common in the Group's arrangements with its customers.

The Group plans to elect to use the cumulative effect transition method for the adoption of IFRS 15 and will recognise the cumulative effect of initial application (if any) as an adjustment to the opening balance of equity at 1 January 2018. As allowed by IFRS 15, the Group plans to apply the new requirement to contracts that are not completed before 1 January 2018, the Group does not expect the new standard will have a significant impact upon the initial adoption of IFRS 15.

### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響(續)

#### 國際財務報告準則第15號，來自客戶合約收益(續)

##### (a) 確認收入的時間(續)

倘合約條款及實體活動並不屬於該三項情況中任何一項，則根據國際財務報告準則第15號，實體於單一時點(即控制權轉移時)銷售該貨物或服務時確認收入。擁有權風險及回報的轉移僅於確定何時發生控制權轉移時將予考慮的指標之一。

本集團已評估新收入標準不可能對銷售貨品、建造合同及提供服務所承認的方式產生重大影響。

##### (b) 重大融資成分

國際財務報告準則第15號要求實體在合同包含重大融資成分時調整交易價格的交易價格，而不管客戶的付款是否提前收到或拖欠。

目前，該集團將只適用於這樣的政策，當付款明顯推遲，這是目前不常見的客戶安排。

目前，該集團並不適用於這樣的政策，當提前收到付款，這是目前不常見的客戶安排。

本集團計劃挑選使用累積效應過渡方法以採納國際財務報告準則第15號及將確認初次應用的累積效應(如有)為於二零一八年一月一日的期初權益結餘的調整。在國際財務報告準則第15號允許下，本集團計劃新準則僅應用於二零一八年一月一日前仍未完成的合約。本集團預期新準則於採納國際財務報告準則第15號後將不會造成重大影響。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)

### 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)



#### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017 (CONTINUED)

##### IFRS 16, Leases

As disclosed in Note 2(m), currently the Group classifies leases into finance leases and operating leases and accounts for the lease arrangements differently, depending on the classification of the lease. The Group enters into some leases as the lessor and others as the lessee.

IFRS 16 is not expected to impact significantly on the way that lessors account for their rights and obligations under a lease. However, once IFRS 16 is adopted, lessees will no longer distinguish between finance leases and operating leases. Instead, subject to practical expedients, lessees will account for all leases in a similar way to current finance lease accounting, i.e. at the commencement date of the lease the lessee will recognise and measure a lease liability at the present value of the minimum future lease payments and will recognise a corresponding "right-of-use" asset. After initial recognition of this asset and liability, the lessee will recognise interest expense accrued on the outstanding balance of the lease liability, and the depreciation of the right-of-use asset, instead of the current policy of recognising rental expenses incurred under operating leases on a systematic basis over the lease term. As a practical expedient, the lessee can elect not to apply this accounting model to short-term leases (i.e. where the lease term is 12 months or less) and to leases of low-value assets, in which case the rental expenses would continue to be recognised on a systematic basis over the lease term.

IFRS 16 will primarily affect the Group's accounting as a lessee of leases for properties, plant and equipment which are currently classified as operating leases. The application of the new accounting model is expected to lead to an increase in both assets and liabilities and to impact on the timing of the expense recognition in the statement of profit or loss over the period of the lease. As disclosed in Note 38, at 31 December 2017 the Group's future minimum lease payments under non-cancellable operating leases amount to RMB26,094,000 for properties, approximately RMB10,129,000 of which is payable between 1 and 5 years after the reporting date. Some of these amounts may therefore need to be recognised as lease liabilities, with corresponding right-of-use assets, once IFRS 16 is adopted. The Group will need to perform a more detailed analysis to determine the amounts of new assets and liabilities arising from operating lease commitments on adoption of IFRS 16, after taking into account the applicability of the practical expedient and adjusting for any leases entered into or terminated between now and the adoption of IFRS 16 and the effects of discounting.

#### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響(續)

##### 國際財務報告準則第16號，租賃

如附註2(m)所披露，本集團目前難以將租賃分類為融資租賃及經營租賃並就租賃安排入賬，取決於租賃的分類。本集團作為承租人訂立部分租賃，而其餘則以出租人訂立租賃。

預期國際財務報告準則第16號將不會嚴重影響出租人將彼等於租約項下的權利及義務入賬的方式。然而，一旦採納國際財務報告準則第16號，承租人將不再區分融資租約及經營租約。相反，受實際權益方法的規限，承租人將以與現有融資租約會計處理方法類似的方式將所有租約入賬，即於該租約開始日期，承租人將按未來最低租賃款項的現值確認及計量租賃負債，及將確認相應的「使用權」資產。於初步確認該資產及負債後，承租人將確認租賃負債結餘所累計的利息開支及使用權資產折舊，而非於租期內按系統基準確認根據經營租約所產生的租賃開支的現有政策。作為實際的權益方法，承租人可選擇不將此會計模式應用於短期租賃(即租期為12個月或以下)及低價值資產的租賃，於該等情況下，租金開支將繼續於租期內按系統基準確認。

國際財務報告準則第16號將主要影響本集團作為租約承租人就物業、廠房及設備(現時分類為經營租約)的會計處理方法。預期應用新會計模式將導致資產及負債均有所增加，及影響租期內於損益表確認開支的時間。誠如附註38所披露，於二零一七年十二月三十一日，本集團於不可撤銷經營租約項下就辦公室物業的未來最低租賃款項將達人民幣26,094,000元，其中人民幣10,129,000元須於報告日期後一至五年內支付。因此，一旦採納國際財務報告準則第16號，若干該等款項可能須按照相應使用權資產確認為租賃負債。經考慮實際權益方法的適用性及調整現時與採納國際財務報告準則第16號之間訂立或終止的任何租約及貼現影響後，本集團將須進行更為詳細的分析以釐定於採納國際財務報告準則第16號時經營租約承擔所產生的新資產及負債的金額。



## NOTES TO THE FINANCIAL STATEMENTS (CONTINUED) 財務報表附註(續)

(Expressed in RMB unless otherwise indicated)  
(除非另有說明，以人民幣列示)

### 48 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2017 (CONTINUED)

#### IFRS 16, Leases (continued)

IFRS 16 is effective for annual periods beginning on or after 1 January 2019. The standard offers different transition options and practical expedients, including the practical expedient to grandfather the previous assessment of which existing arrangements are, or contain, leases. If this practical expedient is chosen, the Group will apply the new definition of a lease in IFRS 16 only to contracts that are entered into on or after the date of initial application. If the practical expedient is not chosen, the Group will need to reassess all of its decisions about which existing contracts are, or contain, leases, using the new definition. Depending on whether the Group elects to adopt the standard retrospectively or follow a modified retrospective method of recognising a cumulative-effect adjustment to the opening balance of equity at the date of initial application, the Group may or may not need to restate comparative information for any changes in accounting resulting from the reassessment.

### 48 已發佈但尚未在截至2017年12月31日止年度生效的修訂、新訂的準則及詮釋可能產生的影響(續)

#### 國際財務報告準則第16號，租賃(續)

國際財務報告準則第16號將於二零一九年一月一日或之後開始之年度期間生效。該準則提供不同之過渡選擇及可行權宜方法，包括融入先前評估之可行權宜方法，當中現有安排為(或包含)租賃。倘選擇此可行權宜方法，本集團僅將國際財務報告準則第16號對租賃之新定義應用於首次應用日期或之後訂立之合約。倘並無選擇可行權宜方法，本集團將須使用新定義重新評估其對哪些現有合約為(或包含)租賃而作之所有決定。視乎本集團是否選擇以追溯方式採納準則，或遵從經修訂可追溯方式確認對首次應用當日權益期初結餘之累計效應調整，本集團未必需要重列因重新評估而引致任何會計變動之比較資料。

# FIVE YEARS FINANCIAL SUMMARY

## 五年財務概要

(Expressed in RMB)  
(以人民幣列示)



		2013 RMB'000 人民幣千元 (restated) (重述)	2014 RMB'000 人民幣千元 (restated) (重述)	2015 RMB'000 人民幣千元 (restated) (重述)	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元
<b>Continuing operations</b>	持續經營業務					
Revenue	收益	25,434,296	25,666,551	19,993,540	15,893,049	<b>11,703,002</b>
<b>Profit before taxation from continuing operations</b>	來自持續經營業務之稅前利潤	940,411	82,606	179,669	529,340	<b>627,415</b>
Income tax	所得稅	(79,357)	(197,844)	(139,549)	(123,500)	<b>(180,936)</b>
<b>Profit/(loss) for the year from continuing operations</b>	本年來自持續經營業務之利潤/(虧損)	861,054	(115,238)	40,120	405,840	<b>446,479</b>
<b>Discontinued operation</b>	已終止經營業務					
Loss for the year from a discontinued operation	本年來自已終止經營業務虧損	-	-	(4,744,011)	(134,089)	<b>(355,709)</b>
<b>Profit/(loss) for the year</b>	本年收益/(虧損)	861,054	(115,238)	(4,703,891)	271,751	<b>90,770</b>
<b>Attributable to:</b>	歸屬於：					
Equity shareholders of the Company	本公司權益股東	558,867	(372,105)	(4,653,788)	320,672	<b>43,703</b>
Non-controlling interests	非控股權益	302,187	256,867	(50,103)	(48,921)	<b>47,067</b>
<b>Profit/(loss) for the year</b>	本年收益/(虧損)	861,054	(115,238)	(4,703,891)	271,751	<b>90,770</b>
<b>Basic and diluted earnings/(loss) per share (RMB cent)</b>	每股基本及攤薄盈利/(虧損) (以人民幣分列示)					
- Continuing and discontinued operations	- 持續經營業務和已終止經營業務	14.20	(1.90)	(77.57)	5.29	<b>0.72</b>
- Continuing operations	- 持續經營業務	14.20	(1.90)	(1.67)	7.48	<b>6.55</b>
- Discontinued operation	- 已終止經營業務	-	-	(75.90)	(2.19)	<b>(5.83)</b>
Total non-current assets	非流動資產總額	21,051,864	20,170,875	17,616,846	11,885,088	<b>10,851,227</b>
Total current assets	流動資產總額	33,554,731	36,758,174	25,335,828	28,333,291	<b>24,757,023</b>



## FIVE YEARS FINANCIAL SUMMARY (CONTINUED) 五年財務概要(續)

(Expressed in RMB)  
(以人民幣列示)

		2013 RMB'000 人民幣千元 (restated) (重述)	2014 RMB'000 人民幣千元 (restated) (重述)	2015 RMB'000 人民幣千元 (restated) (重述)	2016 RMB'000 人民幣千元 (restated) (重述)	2017 RMB'000 人民幣千元
Total assets	資產總額	54,606,595	56,929,049	42,952,674	40,218,379	<b>35,608,250</b>
Total current liabilities	流動負債總額	33,817,587	37,841,594	28,686,925	25,489,235	<b>21,964,491</b>
Total non-current liabilities	非流動負債總額	7,906,766	6,347,071	6,362,796	6,660,589	<b>5,710,494</b>
Net assets	資產淨額	12,882,242	12,740,384	7,902,953	8,068,555	<b>7,933,265</b>
Total equity attributable to equity shareholders of the Company	歸屬於本公司權益股東的權益總額	9,740,266	9,243,905	4,606,464	4,992,176	<b>4,864,544</b>
Non-controlling interests	非控股權益	3,141,976	3,496,479	3,296,489	3,076,379	<b>3,068,721</b>
Total equity	權益總額	12,882,242	12,740,384	7,902,953	8,068,555	<b>7,933,265</b>

On 31 March 2017, the ocean tide power generating unit developed independently by United Power launched into the sea successfully, and connected to the grid smoothly.  
2017年3月31日，聯合動力自主研發的海洋潮流能發電機組成功下海，並順利併網發電運行。



# 國電科技環保集團股份有限公司

GUODIAN TECHNOLOGY & ENVIRONMENT GROUP CORPORATION LIMITED\*

(於中華人民共和國註冊成立的股份有限公司)  
(a joint stock limited liability company incorporated in the People's Republic of China)

Stock Code 股份代號 : 01296  
www.01296.hk

北京市海澱區西四環中路 16 號院 1 號樓  
Building No. 1, Block No. 16 Xi Si Huan Zhong Road,  
Haidian District, Beijing, PRC

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GREEN TECHNOLOGY FOR A BETTER WORLD



國電科環官微



財務報告



公司公告



公益活動