



# 北京城建设计发展集团股份有限公司

BEIJING URBAN CONSTRUCTION DESIGN & DEVELOPMENT GROUP CO., LIMITED

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

Stock Code : 1599



## 2017

### ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



# Contents

1 ABOUT THIS REPORT	2	6 PEOPLE-ORIENTED AND SHARED	
1.1 Overview	2	GROWTH	20
1.2 Report Scope	2	6.1 Talent Strategy and Workforce	
1.3 Reference	3	Enhancement	20
1.4 Report Guideline	3	6.1.1 Talent Recruitment	20
1.5 Report Description	3	6.1.2 Talent Management	21
1.6 Response to this Report	3	6.2 Common Progress and Great	
2 COMPANY PROFILE	4	Achievements	21
3 ENGAGEMENT OF STAKEHOLDERS	6	6.3 Care for Health and Safety Guarantee	23
3.1 Communication among Stakeholders	6	6.3.1 Care for Health of Employees	23
3.2 Selection of Significant Issues	7	6.3.2 Work Safety Guarantee	25
4 SUSTAINABLE DEVELOPMENT		7 GREEN DEVELOPMENT AND	
MANAGEMENT	8	COMMITMENT TO ENVIRONMENTAL	
5 QUALITY OPERATION AND VALUE		PROTECTION	26
CREATION	10	7.1 Green Construction and Everyone's	
5.1 Speeding up with a Stable Pace	10	Involvement	29
5.1.1 Consolidating Business		7.2 Energy Saving and Emission Reduction	
Development	10	for the Environmentally Friendly	
5.1.2 Positive Technological Innovation	14	Operation	31
5.1.3 Continuous Exchange and		7.2.1 Rational Use of Resources	32
Communication	16	7.2.2 Strengthening Waste Management	34
5.2 Go Hand in Hand Based on Compliance		7.3 Environmental Protection Innovations to	
Operation	16	Protect the Earth	35
5.2.1 Risk Management and Control	18	8 COMMITTED TO MAKING CONTRIBUTIONS	
5.2.2 Anti-corruption	18	AND GIVING BACK TO THE SOCIETY	36
5.2.3 Win-win Cooperation	19	8.1 Urban Construction Leads to Change	36
		8.2 Devoting to Public Welfare and Showing	
		of Love	38
		9 INDEX TO THE ESG REPORTING GUIDE	41
		FEEDBACK FORM FOR READERS	47

# 1 ABOUT THIS REPORT



## 1.1 Overview

The purpose of this report is to provide the environmental performance and social performance of Beijing Urban Construction Design & Development Group Co., Limited. (hereinafter referred to as “UCD”) during 2017, which mainly includes the environmental and social issues concerned by stakeholders and related to sustainable development for all major stakeholders to better understand the concept, measures and related performance of sustainable development of UCD. This report should be read together with the “Corporate Governance Report” section on page 89–112 of this year’s annual report in order to fully understand the relevant performance of UCD in environmental, social and governance aspects.

## 1.2 Report Scope

This report covers the operations at Beijing Urban Construction Design & Development Group Co., Limited and its member companies: Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd. (北京城建勘测设计研究院有限责任公司) and Beijing Urban Rail Transit Construction Engineering Co., Ltd. (北京城建轨道交通建设工程有限公司).

Unless otherwise indicated, the reporting period is from 1 January 2017 to 31 December 2017 (hereinafter referred to as the “Reporting Period”).

# 1 ABOUT THIS REPORT (CONTINUED)

## 1.3 Reference

For the convenience of reading this report, Beijing Urban Construction Design & Development Group Co., Limited is referred to as “UCD”. Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd. (北京城建勘测設計院有限責任公司), a member company, is referred to as “Exploration & Surveying Institute”, while the Beijing Urban Rail Transit Construction Engineering Co., Ltd. (北京城建軌道交通建設工程有限責任公司), another member company, is referred to as “Rail Company”. In this report, UCD, Exploration & Surveying Institute and Rail Company are collectively referred to as “Group” or “we/us”.

## 1.4 Report Guideline

This report is prepared by the Group in compliance with the Environment, Social and Governance Reporting Guide set out in Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (hereinafter referred to as the “Listing Rules”) published by the Stock Exchange of Hong Kong Ltd. (hereinafter referred to as the “Hong Kong Stock Exchange”). The detailed compliance with the Environment, Social and Governance Reporting Guide is summarized in the “Content Index of Environmental, Social and Governance Report”. This report is also prepared with reference to Sustainability Reporting Guidelines (GRI 4.0) of Global Reporting Initiative.

## 1.5 Report Description

This report is published in Traditional Chinese and English. If there is any ambiguity in the content of the report, the Traditional Chinese version shall prevail. The electronic version of the report can be read and downloaded through the Group’s official website and the website of the Hong Kong Stock Exchange.

The data of this report is generated within the Company or by manual sorting. This report adopts Renminbi as the measurement currency.

## 1.6 Response to this Report

Readers are welcome to give opinions and suggestions on this report by completing the Feedback Form for Readers at the end of this Report.





## 2 COMPANY PROFILE

Founded in 1958, Beijing Urban Construction Design & Development Group Co., Limited was born following the completion of the first subway in China. After 60 years of accumulation and development, UCD covers its business in urban rail transit, integrated transportation hubs, underground space development, industrial and civil buildings, municipal buildings, bridges, roads, etc. We also provide customers with professional, high-quality full-services including pre-project consulting, planning, investment and financing, surveying and mapping, design, project management, project general contracting, system integration, project evaluation and economic analysis.

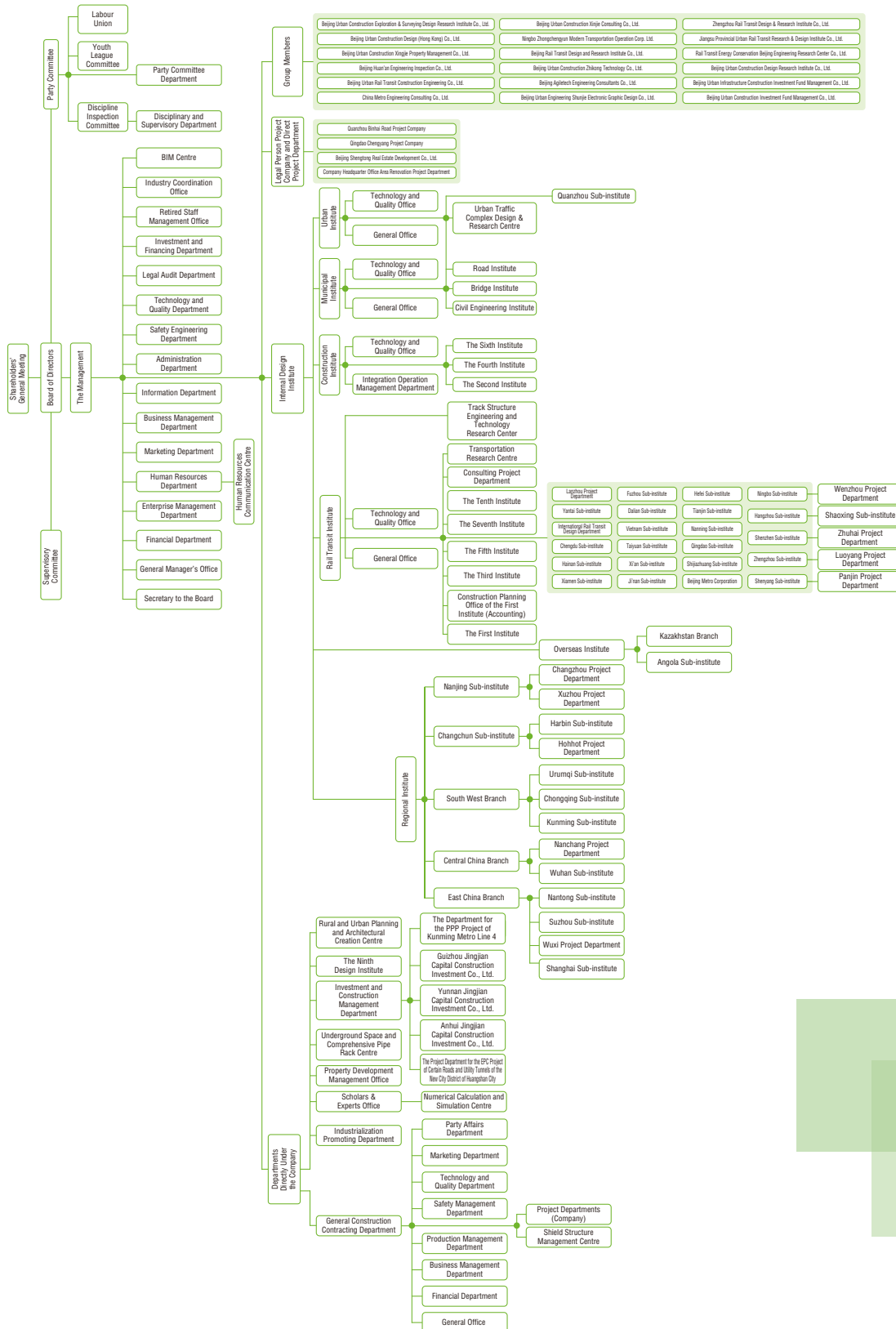
We have an established business presence in more than 60 cities of China and have set up branches or offices in more than 50 cities. Furthermore, we have also expanded our business in other countries, such as Angola, Vietnam, Argentina, North Korea, Mongolia, Pakistan, etc.

In 2017, the Group always adhered to the layout of the entire industrial chain of urban rail transit. While striving to ensure the sustainable health and rapid development of the Group with customers and struggles as its direction, the Group made joint efforts to actively promote its business, bringing a full acceleration in the expansion, innovation and upgrading of the business direction, which was guided by design and driven by capital, so as to complete the annual major goals and tasks.



## 2 COMPANY PROFILE (CONTINUED)

### Organisational Structure of Beijing Urban Construction Design & Development Group Co., Limited





## 3 ENGAGEMENT OF STAKEHOLDERS

### 3.1 Communication among Stakeholders

In 2017, ESG liaison officers of the headquarter departments and member companies of the Group actively communicated with internal and external stakeholders to understand their needs and expectations through the following ways.

Stakeholders	Needs and Expectations	Communication and Response
<b>Government</b>	Compliance with laws and regulations Payment of taxes Support for economic development	Operation in compliance with relevant laws and regulations Payment of taxes in compliance with relevant regulations
<b>Investors</b>	Return on investment Growth of business and earnings Risk management Information disclosure	Transparent and regular disclosure of information General investor meetings Investor summits Roadshows
<b>Customers</b>	Provision of high quality products and services Satisfaction of customers' diversified needs Creation of value for customers	Assurance of product quality Protection of customer information Survey of customer satisfaction
<b>Employees</b>	Employee interests Training and development Occupational safety and health Work and life balance	Provision of competitive and good remuneration and welfare Improvement of career development paths Implementation of employee training
<b>Business partners</b>	Open, fair and equitable purchases Compliance with contracts	Execution of contracts according to the law Open tendering
<b>Community and the public</b>	Community development Charities	Assistance in community construction Public welfare undertakings Regular organization of volunteer activities

### 3 ENGAGEMENT OF STAKEHOLDERS (CONTINUED)

#### 3.2 Selection of Significant Issues

As the Group's main businesses and stakeholders did not change significantly from those in 2016, the Group would continue to adopt the following selection standards and materiality assessment results and select significant issues to disclose in this report. The details will be elaborated in the following sections.

##### Source of issues

- Suggestions made by the Group's management
- Analysis and suggestions made by internal and external experts
- Analysis of media information
- Study on standards conducted by peers in China and foreign countries
- *Environmental, Social and Governance Reporting Guide* of The Hong Kong Stock Exchange

##### Standards of selection

- Contribution to sustainable development
- General issues of concern by stakeholders
- Emphasized by the Guidance on Standards of Social Responsibility
- Conformation to the Group's strategic development needs

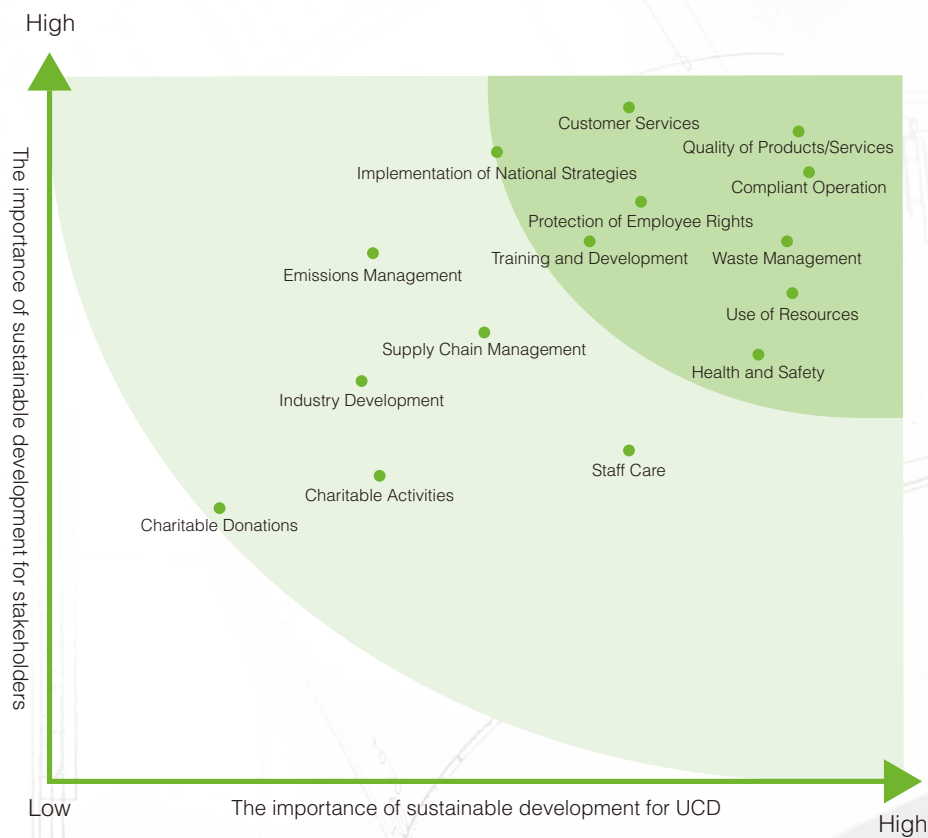


Figure: Results of Materiality Assessment



## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT

In order to effectively make a more comprehensive evaluation on the operation and development of the Group in terms of three aspects including quality, environment and occupational health and provide detailed management measures to achieve all-round sustainable development, the Group specially formulated the Management Procedure Document of Quality, Occupational Health and Safety and Environmental Management Systems of UCD 《北京城建設發展集團股份有限公司質量、職業健康安全和環境管理體系管理類程序文件》 (the “**OHSE Procedure Document**” or the “**Three Systems Document**”) and the Management Manual of Quality, Occupational Health and Safety and Environmental Management Systems of UCD 《北京城建設發展集團股份有限公司質量、職業健康安全和環境管理體系管理手冊》 (the “**OHSE Manual**”), both of which jointly form the quality, occupational health and safety and environmental management systems of UCD (the “**OHSE Systems**” or “**Three Systems**”). Of which, OHSE Procedure Document, taking reference to relevant management documents and relevant policies previously published and made respectively by the Group, on a basis of the setting of the basic operation of the OHSE Manual, has standardized 20 projects the Group engaged in the management and operation, making the management structure of the entire OHSE Systems accurate and refined and significantly improving the effectiveness and operability of the entire system.

System documents and internal audit control procedures	Management procedure of strategic objective	Document control procedure	Risk management procedure	Management procedure of contract review
Standardize system document management, internal audit of the Company and management review	Improve management structure and standardize the setting of operation strategy	Ensure the validity and timeliness of documents used by departments	Achieve the effective assessment of risks and make corresponding response strategy	Ensure that contract is entered into in compliance with laws, policies and internal requirements of the Company
Marketing control procedure	Quality inspection and improvement procedure	Knowledge management procedure document	Project management procedure	Construction project management planning procedure
Standardize the effectiveness of the bidding information and the integration of marketing of the Company and its units	Realize the effective control over the quality supervision and inspection of construction projects	Realize the sharing, accumulation, effective transfer and application of corporate knowledge within the Company	Standardize project management system and clarify the workflow and work requirements of project management	Standardize the management planning of construction projects

## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)

Operation and management procedure of construction projects	Seal management procedure	Information management procedure	File management procedure	Control procedure required by laws, regulations and others
Clarify the organizational structure, assignment of responsibility, work objectives and performance monitoring of the operation and management of business units	Standardize the use of seal and strengthen the management of seal	Ensure information communication channels and standardize the management and maintenance of information systems	Standardize file management to ensure the completeness, accuracy, systematization and security of files	Establish channels for obtaining, identifying and updating laws, regulations and other requirements
Legal and regulatory compliance evaluation procedure	Non-conformity, corrective and preventive measures control procedure	Control procedure of corporate environment and occupational health and security	Control procedure of emergency preparedness and response	HR staff training and staff assessment management procedure
Make regular evaluation on the compliance with laws, regulations and requirements	Adopt corrective and preventive actions against existing or potential non-conformities in management system	Define the responsibilities and authority of the OHSE Systems to determine working procedures and record requirements	Cope with existing or potential incidents or emergencies related to environment and occupational health and safety	Standardize staff training and assessment

Chart: Management Items of OHSE Management Procedure Document



## 5 QUALITY OPERATION AND VALUE CREATION

Taking the “Design city and build future” as its mission, the Group has strict demands for itself to strive to develop into a comprehensive service provider for urban construction led by design. We adhere to the corporate values of “customer first, fighting will as the foundation, integrity and pragmatism, pursuit of excellence” and the corporate spirits of “ingenuity, responsibility, innovation, fighting will”, and we have established the quality policy of “scientific management, super quality, continuous improvement, and customer satisfaction” and strive to achieve a harmonious and sustainable development of people, cities and the environment.

### 5.1 Speeding up with a Stable Pace

The Group's main businesses include design, survey and consultancy segment as well as the construction contracting segment where the Group provides services for infrastructure construction (in particular, urban rail transit). In 2017, we successfully adhered to the layout in the entire urban rail transit industry chain by seizing opportunities arising from the accelerated development of the urban rail transit in China. We also strived for the expansion of the scope of design, survey and consultancy business and proactively developed the PPP and EPC business, thereby steadily increased the revenue of the Group.

As a leader and driver of the development of the urban rail transit industry and also as a major participant in making national design codes for the urban rail transit industry, apart from providing high-quality products and services for our customers, the Group also focuses on product development and innovation, with a purpose of improving the Group's business capability and especially increasing its core competitiveness while actively expanding the market by synergy of the whole industry chain and promoting the brand influence of UCD by seizing the opportunities arising from the major engineering constructions projects relating to urban rail transit infrastructure in China and fully leveraging on its technical strengths in the industry.

#### 5.1.1 Consolidating Business Development

##### *Product Quality*

During the Reporting Period, we achieved a joint improvement in product and quality in major business units.

In terms of quantity, the Group expanded its design, survey and consulting business to 40 cities at the end of 2017 from over 20 cities in 2016; at the same time, the Group newly won bids of 28 projects of design of rail transit in cities including Beijing, Changchun, Chengdu, Hangzhou, Jinan, etc. The total mileage in operation of the design projects ranked first in design services for urban rail transit lines in China.

## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

In terms of quality, the Group has realized a complete management chain construction from planning to operation and from management to supervision in compliance with the requirements of the planning management procedure and operation management procedure of construction project, project management procedure and legal and regulatory compliance evaluation procedure in the OHSF Systems. The Group makes quality audit through three-level review method to ensure that all of its businesses and products are in compliance with relevant regulations and policies in the industry such as the Construction Law of the People's Republic of China 《中華人民共和國建築法》, the Metrology Law of the People's Republic of China 《中華人民共和國計量法》 and the Measures for the Administration of Quality Testing of Construction Projects 《建設工程質量檢測管理辦法》 so as to provide high-quality products to our customers, gradually improve the Group's popularity in the industry and consolidate its competitiveness in the industry. During the Reporting Period, the qualification ratio of its construction design products reached 100% with more than 6 outstanding design achievements and scientific research achievements of domestic advanced level.

### *Compliance Operation*

In strict compliance with relevant laws and regulations including the Advertising Law of the People's Republic of China 《中華人民共和國廣告法》 and the Trademark Law of the People's Republic of China 《中華人民共和國商標法》, the Group restricts its own behaviors in its daily operation course and makes strict management and control over the advertising and trademark matters involved in the design, consulting and contracting business to avoid misleading the public and customers.

In addition, the Group focuses on protecting the information security of suppliers, partners and customers and implements relevant policies in its daily business. For example, the Group's design institutes regularly deliver their waste drawings to third parties for crushing and landfill disposal to ensure that intellectual property rights and customer privacy are not leaked.



## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

### Case: UCD Receives Laurels of Outstanding Design Team and Advanced Individuals for Beijing Subway Line 3 Phase I

Recently Beijing MTR Construction Administration Corporation No. 4 Project Center released the Decision on Commending Outstanding Units and Advanced Individuals of Subway Line 3 Phase I Project 《關於表彰地鐵3號線一期工程優勝單位及先進個人的決定》, recognizing outstanding units with excellent cohesion and power of execution and advanced individuals who have been dedicated and distinguished themselves in preparation and construction of Phase I of Beijing Subway Line 3 in 2017. UCD, as the general contractor of design of the Phase I, has established a design team in line with high standards and strict requirements in July 2014 to enable reasonable arrangement and outstanding designs. With joint efforts of all participants of Line 3, UCD won the honor of outstanding designer and four staff were awarded as the advanced individuals in the 2017 performance evaluation.



## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

### **Case: UCD's Tentative Designing Program for the First-Stage Construction of the Astana Light Rail, a Major Project under “Belt and Road Initiatives” Passes Appraisal**

In early 2017, UCD's tentative designing program for the first-stage construction of the Astana Light Rail (the section of light rail between the airport and the newly-built train station), prepared for over half a year, has passed appraisal without a hitch at a meeting where experts' appraisals and consultations were conducted. At the meeting, the Group's representatives made a comprehensive report on the overall design of the first-stage project of Astana Light Rail. After discussions and exchange of views between teams of experts and the designing units, the expert thought that UCD's preliminary design documents gave a clear picture of the functional positioning of the project, with the documents and basic material providing across the board and the design principles making to the point. They considered UCD's major technical standards to be in compliance with the Code for Metro Design 《地鐵設計規範》 and the depth and content of the design to fit in with the project requirements indicated in the documents. Therefore, the experts all agreed that the design program could be used as a basis for designing the construction drawing after it had been modified and ameliorated on the lines of the appraisals. It marks that UCD's tentative design program for the first-stage construction of the Astana Light Rail has successfully passed muster by way of experts' appraisals.



## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

### 5.1.2 Positive Technological Innovation

In order to effectively promote scientific and technological innovation and achieve a joint development from top to down of the Group, we have actively developed our internal innovation platform and built and improved our own talent team. By now, the Group has one member of Chinese Academy of Engineering, one national engineering and surveying design expert, one Beijing Scholar, and seven professors who receive allowance from the government. The medium or senior level professional technicians and the employees who hold a bachelor's degree or a higher degree accounted for 60% and 86% respectively, of the total number of employees of the Group, providing a solid foundation for brand innovation of the Group. Relying on the ability guaranteed by our own talent team and in compliance with relevant national and local regulations, the Group formulated relevant regulations such as the Administrative Measures for External Scientific and Technological Innovation 《外部科技創新管理辦法》 and the Implementation Rules for Rewards to High-tech Enterprises 《高新技術企業管理細則》 to ensure the compliance and effectiveness of technologically innovative products and technologies and encourage employees to proactively explore, and also prepared relevant rules such as the Administrative Measures for Proprietary Intellectual Property Rights (Trial) 《自主知識產權獎勵管理辦法(試行)》 to protect intellectual property and legitimate rights and interests of the country, the Group and individuals.

During the Reporting Period, the Group won a number of special awards in scientific technology excellence. The Light Rail Transit Design Standard (《輕軌交通設計標準》) GB/T51263-2017 mainly edited by the Group was released, laying the standards in the domestic light rail field. In addition, the Group also formulated 2 industry standards and 10 local drawings; received 11 patents for invention; received 6 provincial and ministerial level scientific and technological progress awards, 1 Zhantianyou Award, 29 provincial and ministerial level excellent design awards, 5 excellent consultancy awards, 11 construction quality awards, 8 quality management awards, 2 provincial and ministerial level work methods, and 3 demonstration projects of new technology application, showing the strong research and development capability of the scientific research innovation team of the Group and the professional level of practically transforming scientific research results into productivity.

While strengthening its R&D and innovation capabilities, we also promote the academic exchanges between the Group and other peer businesses and professional research institutions. We not only aim at the internal upgrading, but also seek progress in the entire industry, striving to make contribution to China's urban rail construction, industrial, civil construction, etc.



## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

### **Case: Academic Forum on the Coordinated Development of Regional Rapid Rail Transit and Urban Agglomerations and the Launching Ceremony of Urban Rapid Rail Transit Design Code 《市域快速轨道交通设计规范》 was Held Successfully**

In August 2017, The Academic Forum on the Coordinated Development of Regional Rapid Rail Transit and Urban Agglomerations and the Launching Ceremony of Urban Rapid Rail Transit Design Code, jointly hosted by the Rail Transit Branch of the China Civil Engineering Society and the Design and Consultancy Committee of the China Urban Rail Transit Association and organized by Beijing Jiaotong University and the Rail Transit Research Center of UCD, was held successfully in Beijing. A total of over 150 experts and scholars attended the forum and made academic exchanges on the coordinated development of regional rapid rail transit and urban agglomerations. 8 experts were invited to deliver case analysis and technical discussions on the coordinated development of regional rapid rail transit and urban agglomerations in four cities including Shanghai, Beijing, Shenzhen and Chongqing. Wan Xuehong, deputy dean, as the editor-in-chief of the Urban Rapid Rail Transit Design Code, made detailed interpretation on the code. The experts and scholars attending the forum made full discussion on each part of speeches and shared their respective opinions and ideas.



## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

### Case: 2017 China Urban Rail Transit Key Technologies Forum and the 26th Metro Academic Exchange Conference successfully closes

On 21 April 2017, the 2017 China (Zhengzhou) Urban Rail Transit Key Technologies Forum and the 26th Metro Academic Exchange Conference, themed as the “green and safe construction technologies and equipment of urban rail transit” closed successfully in Zhengzhou, Henan province. More than 500 representatives and experts from relevant industries attended the conference. They shared experiences in successful innovation in preliminary line network planning, survey and design, construction technologies, safety and inspection, operation management, etc. of rail transit and discussed the industry prospects and development direction, playing a positive role in promoting the development of the China’s urban rail transit. During the conference, the Group’s representatives actively participated in the discussion, listened carefully to the wonderful speeches delivered by the guests and brought the gains of the conference to the Group, bringing new inspirations to the innovation and development of the Group.

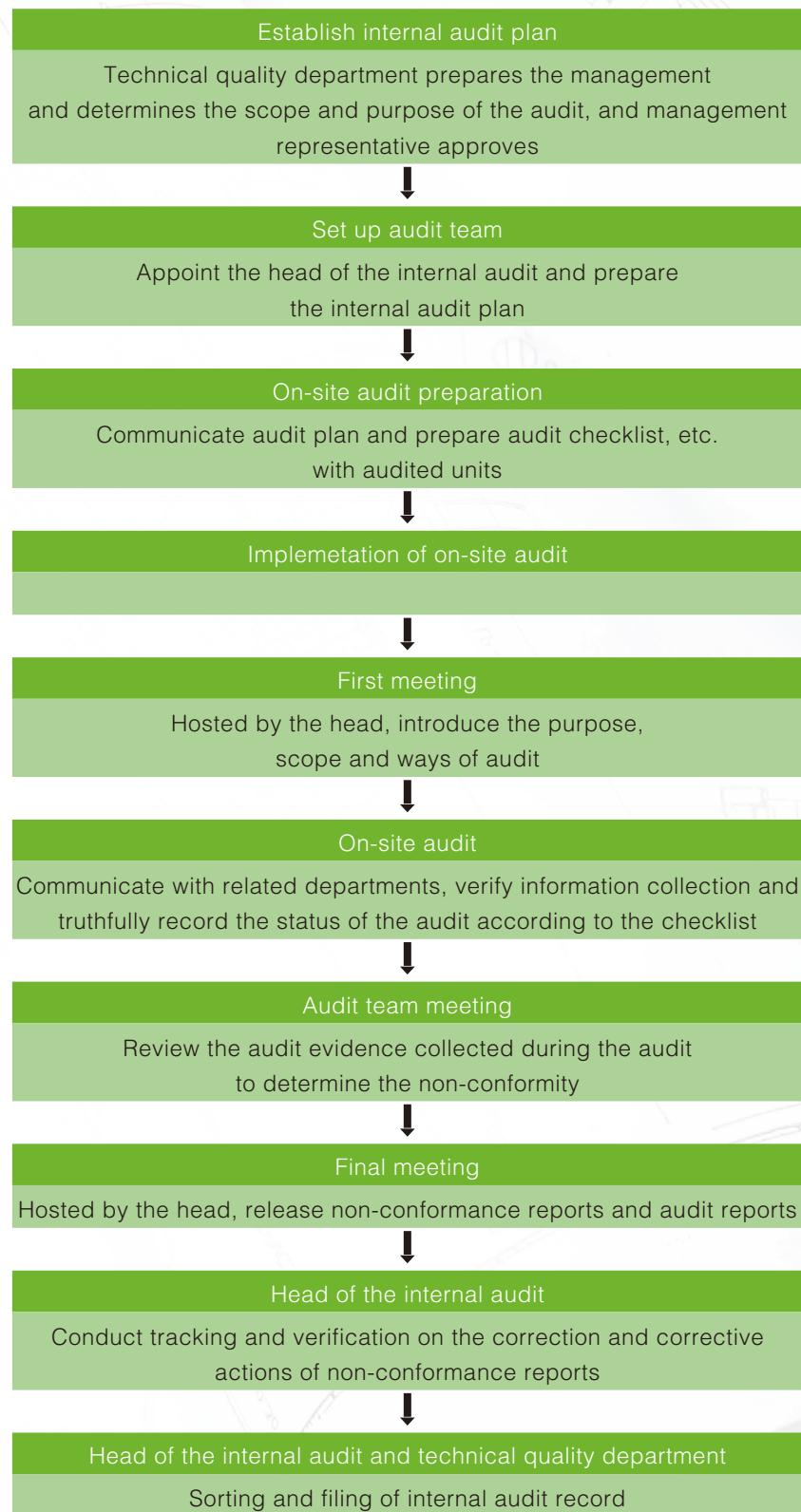
#### 5.1.3 Continuous Exchange and Communication

According to the project management procedure in the OHSE Systems, we set up the “post-evaluation” procedure at the end of each project. Based on documents published by the Group including the Customer Satisfaction Survey and Application Regulations 《顧客滿意度調查及應用規定》 and the Project Warranty Management Regulations 《工程保修管理規定》, we collect customers’ evaluation and opinions through many channels and frequently organize relevant functional departments to pay return visits, in order to obtain further customer opinions through face-to-face communication. According to relevant surveys, during the Reporting Period, customers showed their affirmation to our work with the favorable rate of over 90% and no relevant customer compliant cases were received.

### 5.2 Go Hand in Hand Based on Compliance Operation

The Group has established a complete internal audit model in the System Document and Internal Audit Control Procedure to audit the effectiveness of the Three Systems and other internal management systems. The Group has also conducted a detailed preparation on how to upgrade and improve management systems in order to ensure that the Three Systems and other management policies can be implemented and operated in a solid manner in the Group’s operation and can be improved continuously with the development of the Group and changes in the environment.

## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)



\* Figure: Working Flow of Internal Audit

## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

### 5.2.1 Risk Management and Control

While consolidating the external cooperation, we continued to strengthen the internal control capabilities and improve our own resistance against risks. In compliance with the Comprehensive Risk Management Guidelines of Central Enterprises 《中央企業全面風險管理指引》 formulated by the State-owned Assets Supervision and Administration Commission of the State Council, the Basic Norms of Enterprise Internal Control 《企業內部控制基本規範》 formulated by the Ministry of Finance and the Basic Norms of Internal Control 《內部控制基本規範》 made by the Group, the Group made detailed settings for the steps of risk management and control in the risk management procedure document. According to the stipulation, the Group, led by the legal audit department, conducts a comprehensive evaluation on strategic risk, financial risk, operational risk, legal risk and others, adopting vertical management model. It also takes active measures on identified risks and achieves effective control over risks.

### 5.2.2 Anti-corruption

Strictly in compliance with the Criminal Law of the People's Republic of China 《中華人民共和國刑法》, the Anti-Money Laundering Law of the People's Republic of China 《中華人民共和國反洗錢法》 and the Anti-unfair Competition Law of the People's Republic of China 《中華人民共和國反不正當競爭法》, the Group formulated documents related to the implementation of the construction of clean administration and anti-corruption such as the Implementation Measures with Regard to the Effective Implementation of the Accountability Mechanism for the Construction of Clean Administration 《關於貫徹落實黨風廉政建設責任制的實施辦法》 and the Opinions on Implementing Main Responsibilities of the Party Committee and Supervision Responsibilities of the Discipline Inspection Commission of the Accountability Mechanism for the Construction of Clean Administration 《關於落實黨風廉政建設責任制黨委主體責任和紀委監督責任的意見》, to resolutely resist all acts involving corruption, extortion, fraud and money laundering.

Of which, the Rail Company prepared and released relevant documents for the internal management of the rail company such as the Opinions on Major Task Division of the Construction of Clean Administration and Anti-corruption for 2017 《2017年黨風廉政建設和反腐敗工作主要任務分工意見》 and the Implementation Measures on the Accountability Mechanism for the Construction of Clean Administration 《黨風廉政建設責任制實施辦法》, while the Exploration & Surveying Institute also published relevant documents including the Opinions on Major Task Division of the Construction of Clean Administration and Anti-corruption of the Exploration & Surveying Institute for 2017 《2017年北京城建勘測設計研究院有限責任公司黨風廉政建設和反腐敗工作主要任務分工的意見》 in 2017 and organized the discipline inspection commission to conduct supervision and audit on its branch institutes. During the Reporting Period, the Group had received no lawsuits related to corruption.



## 5 QUALITY OPERATION AND VALUE CREATION (CONTINUED)

The Exploration & Surveying Institute is inspecting the construction of clean administration at the Nanjing branch



### 5.2.3 Win-win Cooperation

In compliance with the requirements for the collection of suppliers information in the strategic objective management procedure of the OHSE Systems and the requirements for the qualification of suppliers in the project management and planning procedure, when selecting suppliers, we observe the performance of suppliers in terms of environment and society in a proactive way and always insist on the most environmentally friendly solutions during the cooperation period, in order to strive for a minimizing negative effect on the natural environment. We also review whether the quality management, environment management and employment management of suppliers participating in tendering and bidding are in compliance with the national and industry management regulations, and also conduct verification and evaluation on the professional titles and occupational qualifications of staff. During the Reporting Period, the Group maintained long-term relationships with 60 Beijing-based suppliers and 175 other cities-based suppliers.

In terms of supply chain management, the Group formulated relevant systems such as the Marketing Management Measures on Design and Consultation Projects 《設計、諮詢項目市場營銷管理辦法》 and the External Cooperation Design Management Measures 《北京城建設計發展集團股份有限公司外部合作設計管理辦法》, in compliance with relevant laws and regulations including the Construction Law of the People's Republic of China 《中華人民共和國建築法》 and the Contract Law of the People's Republic of China 《中華人民共和國合同法》 and combining with its actual conditions, in order to effectively conduct management and control over the overall development planning and marketing strategy deployment of the Group, making the bidding information of the Group and its member companies more effective and its marketing more integrated, so as to improve the overall market competitiveness of the Group. As one of the member companies of the Group, Exploration & Surveying Institute also referred to the relevant regulations of the Group on supplier management and external cooperation management, and formulated the Procurement Process Control Procedures (《採購過程控制程序》) and 2017 Measures for the Management of Production Equipment and Facilities Asset of Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd. (《2017年北京城建勘測設計研究院有限責任公司生產設備設施資產管理辦法》) to further refine supplier management with characteristics and better correspond to the business development and operation management of the Group.

## 6 PEOPLE-ORIENTED AND SHARED GROWTH

UCD insists on the concept of “People-oriented management”, commits itself to protection of the rights and interests of employees, cares their needs and pays attention to their growth. By building a development platform and improving the remuneration and benefit system, UCD offers its employees a greater room to play a role, enhances the sense of belonging and creates a healthy and safe working environment with openness and equality.

### 6.1 Talent Strategy and Workforce Enhancement

As of the end of 2017, the Group has a total of 3,886 employees within the scope of statistics<sup>1</sup>. The total workforce by gender, geographical region, age group and employment type are stated below:

	Gender		Age group		
	Male	Female	Below 30	30–50	Over 50 (inclusive)
Total workforce	2,824	1,062	1,476	2,154	256

	Employment type		Geographical region		
	Senior management	Middle management	Staff	Beijing	Other regions
Total workforce	120	358	3,408	2,697	1,189

#### 6.1.1 Talent Recruitment

The Group strictly follows the Labor Law of the People's Republic of China (《中華人民共和國勞動法》), the Labor Contract Law of the People's Republic of China (《中華人民共和國勞動合同法》), the Regulation on the Implementation of the Employment Contract Law of the People's Republic of China (《中華人民共和國勞動合同法實施條例》) and relevant policies. With reference to the actual condition, the Group prepares Rules of Beijing Urban Construction Design & Development Group Co., Limited on Recruitment Management (《北京城建設計發展集團股份有限公司招聘管理辦法》). Highlighting such recruitment principles as open recruitment, selection on basis of merit, preference of internal recruitment over external recruitment and employment on basis of demand, the document offers equal opportunities to talents and set clear rules on recruitment process. In the event that the contract is terminated or an employee is dismissed, the Group performs demission procedures in accordance with relevant laws and regulations to protect the interest of parties involved and ensure that

<sup>1</sup> The scope covers the headquarters of UCD (excluding the branches), the headquarters of Exploration & Surveying Institute and its branches, and the headquarters of Rail Company and its project departments;

## 6 PEOPLE-ORIENTED AND SHARED GROWTH (CONTINUED)

the legitimate interest of employees and the safety of information and assets of the Group are safeguarded. The document also makes sure that the Group treats people of different ages and genders, from different nations and religions or with physical disabilities equally and offers them equal job opportunities. The Group also sets reasonable working hours and offers paid vacation according to laws.

The Group does not hire underage employees. We set strict standards on each phase of recruitment, and requires candidates to provide valid identity documents to avoid selection of those under sixteen. Candidates who provide false information will not be employed. In the meantime, the Group prohibits any form of forced labor, and enters into labor contracts with employees on the rule of equality and free will and by consensus. Once there is suspected employment of child labor or forced labor, the Group will conduct investigations immediately; once the breach of laws is found in an incident, the Group will hand it over to the relevant judiciary authorities and shows no tolerance to such breach. During the Reporting Period, the Group has not received any case about child labor and forced labor.

### 6.1.2 Talent Management

With the release of Rules on Management of Work Attendance, Leave and Holidays (《員工考勤與休假管理辦法》), the Group standardises the management of working hours, attendance, leave and holidays and makes sure that the basic interest of employees is protected. In addition, the Group prepares the Rules on Remuneration Management and Accounting Management (《薪酬管理和核算管理辦法》) in accordance with the Company Law of the People's Republic of China (《中華人民共和國公司法》), the Accounting Law of People's Republic of China (《中華人民共和國會計法》), the Labor Contract Law of the People's Republic of China (《中華人民共和國勞動合同法》) and relevant national laws and regulations. The document provides explanation to matters related to salaries, bonuses, benefits and social insurance and relevant accounting methods, and establishes the internal remuneration and benefit management system. With regard to the termination of labor contract, the Group provides detailed statements and explanation in both the Management Rules on Labor Contract and Agreement (《勞動合同及協議管理辦法》) and the labor contract. Meanwhile, the Group develops Administrative Measures for Positions and Ranks of Beijing Urban Construction Design & Research Institute (《北京城建設計研究總院崗位及職級管理辦法》) to standardise the promotion mechanism and the position and rank management. The measures provide details about the system of positions and ranks, related adjustments, and talent management and incentives.

## 6.2 Common Progress and Great Achievements

Based on the Administrative Measures for Training (《培訓管理辦法》) and taking account of training requirements, content and participants, we offer two types of trainings: training at corporate level and professional training. We also establish Corporate University to meet employees' rising training requirements upon the continuous development of the Group. In Three Systems, we have a standard management procedure for training: survey on training needs → formulation of training plans → organisation and implementation of training → evaluation and feedback on training → management of training files → assessment and evaluation on training → summarisation and improvement on training.



## 6 PEOPLE-ORIENTED AND SHARED GROWTH (CONTINUED)

In 2017, the Group steadily promoted trainings of all levels, further improved the training management and preliminarily established the framework incorporating training organisation management, training evaluation management, training assessment management and training hour management. With reference to the Administrative Measures for Training and the Staff Vocational Training System (《員工職業培訓體系》) and with consideration of the need of business development, the talent cultivation orientation, the position qualification and the results of survey about employees' demands, the Group developed an annual training plan for each level and each rank. According to such plan, the Group organised different trainings in 2017, including trainings for new employees, management trainings for young managers, trainings for middle and senior management and trainings for professional personnel. Building on such basis, the Group set up a mobile learning platform to realise overall information-based management of training activities and to strengthen exchange with external quality customers and industry talents through network platform, demonstrating the advancement of the Group's Corporate University.

### Case: Sixth Training Session for “Class of Young Management” of the Group Concluded

In Mid-September 2017, the sixth training session for “Class of Young Management” organised at the headquarters of the Group invited an associate professor from the Management Science and Engineering Department of Tsinghua University to give lectures on Operation Management. Citing practical cases, the lecturer made detailed analyses of operation management, quality system, operation management based on damage control and lean management. After the lecture, a famous finance-taxation and capital operation expert and capital operation professor of Tsinghua University gave lectures on Capital Market and Investment and Financing Management. Introducing the influence of the financial sector on daily life and production, the professor emphasized how financial knowledge and awareness are important to corporate management and development.





## 6 PEOPLE-ORIENTED AND SHARED GROWTH (CONTINUED)

### Case: Training of “Improving Skills on Office Software” by Exploration & Surveying Institute

On 15 February 2017, Exploration & Surveying Institute organised the first training session of Improving Skills on Office Software for 2017. Chen Ze, the advisor of office software and data analysis, was invited to give systemic analysis about common issues related to Word, Excel, PowerPoint, and to show shortcuts which can improve work efficiently. All of the 80 participants agreed that this training helped them to know more about office software, and they would be able to better solve relevant problems in the future.



### 6.3 Care for Health and Safety Guarantee

The Group strictly follows the Work Safety Law of the People's Republic of China (《中華人民共和國安全生產法》), the Regulation on Work Safety Permits (《安全生產許可證條例》), Provisions on the Administrative Reconsideration on Work Safety (《安全生產行政復議規定》) and other laws, regulations, provisions related to work safety, and the Interim Provisions on Occupational Health Supervision and Management of Workplaces (《作業場所職業健康監督管理暫行規定》), the Occupational Diseases and Hazards Incidents Investigation Methods (《職業病危害事故調查處理辦法》) and other laws, regulations and policies related to the health of employees. In addition, the Group develops a range of internal management rules to protect the safety and health of employees. To ensure that the work safety and health management system can be put into practice, the Group establishes the Work Safety Committee to lead the work safety, analyze and address issues related to work safety. The Group also requires that the Work Safety Management Department should conduct regular assessment on the Group's compliance with health and safety laws and regulations, so as to identify problems promptly.

#### 6.3.1 Care for Health of Employees

As a caring for its employees, the Group develops the Measures Governing Occupational Health of Employee and Labor Protection (《員工職業健康及勞動保護管理辦法》) to safeguard their health and safety. The Measures requires that activities and trainings about occupational health and safety should be organised on a regular basis, and sets detailed provisions about filing of health documents and matters related to health check of previous years. Apart from physical health, psychological health of employees is also one of the focuses. We establish a dedicated taskforce to offer psychological counseling services to employees, helping them to relieve themselves from work stress and to maintain mental health. In addition, the Groups often holds various activities, which include swimming competitions, basketball games and rope skipping competitions, to bring more fun to the leisure life of its employees.

## 6 PEOPLE-ORIENTED AND SHARED GROWTH (CONTINUED)

Furthermore, we care for employees' needs in life and do our best to offer them help. For example, we distribute radiation-proof suits to pregnant female employees, offer mutual insurance to employees and health insurance to female employees. We also send gifts and greeting to those who are sent to branches of other cities for business and research and those who are working at the front line. We set up baby care rooms at Hengtai office to support breastfeeding employees.

### Case: “You are Beautiful” Campaign in Celebration of International Women’s Day Concludes Successfully

On 7 March 2017, the Group organised a lecture themed “Women Health and Emotion Management and Financial Management” at Conference Room 501, 5/F, Hengtai Centre. Over 150 female employees at headquarter attended the lecture, and more than 10 branches outside Beijing participated in this activity via online video system. The Group also held handicraft talent shows, which attracted many female employees and showcased 42 pieces of handicrafts and 83 photos taken by cell phones. In addition, the Group invited female employees to other activities, including the Huangmei Opera Huizhou Woman (《徽州女人》) staged at National Centre for the Performing Arts, the Awarding Ceremony for Happy Family of Beijing (《首都幸福家庭頒獎典禮》), the Lecture on Improving Feminine Charm (UCD) (《女性魅力提升(城建專場)講座》) and the Lecture on Women’s Mental Health (《女性心理健康講座》).



## 6 PEOPLE-ORIENTED AND SHARED GROWTH (CONTINUED)

### 6.3.2 Work Safety Guarantee

To avoid workplace incidents and to guarantee safety and health of employees, the Group has already laid down detailed rules about work safety training, work safety funding, work safety inspection mechanism and work safety accountability. In addition, Work Safety Education and Training System (《安全生產教育和培訓制度》), Work Safety Funding System (《安全生產資金保障制度》), Work Safety Accountability (《安全生產責任制》), Work Safety Inspection Mechanism (《安全生產檢查制度》), which are complemented by the monthly work safety duty system for the leadership to conduct supervision, are released to ensure comprehensive implementation of each rules and regulations.

For projects with design completed, the Group takes account of the specifics about environment and health safety control as set out in the Three Systems Management Procedures and appoints a taskforce to conduct risk assessment on working conditions by using the LEC method, which analyses the risk level from three aspects: the likelihood of the incident, the rate of exposure to dangerous environment, and the possible consequences of the incident. For projects with high risk levels, the Group will adopt new control measures or adjust existing control measures to reduce the risks, thereby offering guarantee to the health and safety of its employees.

### Case: Drill for Flood Contingency Plan

On 19 May 2017, the Group organised a drill for flood contingency plan at Jimenqiao No. 1 Plant. The aim of the drill was to review the ability of the Project Department in “prompt response, inter-departmental coordination, professional guarantee, comprehensive treatment, incident investigation and post-incident actions”. The Project Department made preparation for the implementation plan of the drill 20 days in advance and conducted internal coordination work. The drill helped all members of the Project Department understand flood prevention, and also improved the capabilities of the emergency rescue team in this drill. In the meantime, the Project Department has identified some possible issues related to the previous flood prevention system and made adjustments accordingly to enhance the operability of the flood contingency plan.





## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION

With the objective of overall green operation, the Group adopts the strategy of procedural management and introduces energy conservation technologies to minimise the environmental impact and to maximise the environmental performance. In strict compliance with the Environmental Protection Law of the People's Republic of China (《中華人民共和國環境保護法》), the Law of the People's Republic of China on Environmental Impact Assessment (《中華人民共和國環境影響評價法》), the Water Law of the People's Republic of China (《中華人民共和國水法》) and other laws and policies related to environmental protection, the Group sets strict standards on its operational activities. The Group prepares and implements internal systems including the Environmental Management Plan (《環境管理方案》) and the List of Key Environmental Factors of the Group (《公司重要環境因素清單》), so as to supervise, monitor and manage the environmental factors to which its operation would probably relates.

In addition, the Group conducts appropriate management on energy production and consumption in accordance with national principles, policies, laws and regulations. It adopts measures that are technically feasible, economically reasonable and acceptable by the society to optimise the energy structure and allocation within the Group and to reduce loss and waste in each phases of the energy consumption, so as to achieve energy and resource utilisation that is more scientific, more reasonable and more efficient.

Environmental data of the Group for the Reporting Period is listed below.

Indicator	Unit	Data in 2017
<b>Air Pollutant Emissions<sup>2</sup></b>		
NO <sub>x</sub> Emissions	kg	9,398.13
SO <sub>x</sub> Emissions	kg	11.70
CO Emissions	kg	10,215.53
PM <sub>2.5</sub> Emissions	kg	472.62
PM <sub>10</sub> Emissions	kg	499.53

<sup>2</sup> Air pollutant emissions are mainly from exhaust emissions of the vehicles owned and controlled by the Group and the engineering machinery of Exploration & Surveying Institute. The specific emission data is calculated by referring to the Technical Guide for Air Pollutant Emission Inventory for Road Vehicles (Trial) (《道路機動車排放清單編製技術指南(試行)》) issued by the Ministry of Environmental Protection of the People's Republic of China and the *AP-42 Compilation of Air Pollutant Emission Factors* issued by the United States Environmental Protection Agency;



## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

Indicator	Unit	Data in 2017
<b>Resource Consumption and Intensity<sup>3</sup></b>		
Total Electricity Consumption	10,000kWh	1,183.15
Electricity Consumption Intensity	kWh/person	2,382.02
Total Water Consumption	10,000 tonnes	64.34
Water Consumption Intensity	tonnes/person	129.54
Total Natural Gas Consumption	10,000 m <sup>3</sup>	15.72
Natural Gas Consumption Intensity	m <sup>3</sup> /person	31.64
Diesel Consumption	litre	35,643
Diesel Consumption Intensity	litre/person	7.18
Gasoline Consumption	litre	266,112.5
Gasoline Consumption Intensity	litre/person	53.58
Total Liquefied Petroleum Gas Consumption	10,000 m <sup>3</sup>	6.60
Liquefied Petroleum Gas Consumption Intensity	m <sup>3</sup> /person	13.29
Total Office Paper Consumption	tonnes	61.23
Office Paper Consumption Intensity	kg/person	12.33

<sup>3</sup> In 2017, we collected resource usage data about the headquarters of UCD and its 20 branches, the headquarters of Rail Company and its 13 projects, and the headquarters of Exploration & Surveying Institute and its 10 branches;

## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

Indicator	Unit	Data in 2017
<b>Greenhouse Gas Emissions and Intensity</b>		
Emissions of Scope 1 Greenhouse Gas (in CO <sub>2</sub> Equivalent) <sup>4</sup>	tonnes	116,113.93
Emissions of Scope 2 Greenhouse Gas (in CO <sub>2</sub> ) <sup>5</sup>	tonnes	9,314.48
Total Greenhouse Gas Emissions (in CO <sub>2</sub> Equivalent)	tonnes	125,448.42
Greenhouse Gas Emission Intensity (in CO <sub>2</sub> Equivalent)	tonnes/person	25.26
<b>Total Hazardous Waste Produced and Intensity<sup>6</sup></b>		
Total Waste Batteries Produced	kg	220.11
Intensity of Waste Batteries Produced	kg/person	0.04
Waste Fluorescent Lights	pieces	640
Intensity of Waste Fluorescent Lights	pieces/person	0.13
Total Printer Cartridges Produced	pieces	2,292
Intensity of Printer Cartridges Produced	pieces/person	0.46
Total Waste Chemicals Produced	kg	308.7
Intensity of Waste Chemicals Produced	kg/person	0.06

<sup>4</sup> Greenhouse gas emissions herein are from exhaust emissions of the vehicles owned and controlled by the Group and the engineering machinery, greenhouse gas emissions produced by refrigerant consumption of the Group during the Reporting Period and greenhouse gas emissions produced by consumption of natural gas and liquefied petroleum gas. The specific emission data is calculated by referring to Appendix 2: Reporting Guidance on Environmental KPIs issued by the Hong Kong Stock Exchange and the Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions of Road Transport Enterprises (Trial) (《陸上交通運輸企業溫室氣體排放核算方法與報告指南(試行)》) issued by the Ministry of Environmental Protection of the People's Republic of China;

<sup>5</sup> Greenhouse gas emissions herein are indirect greenhouse gas emissions from the production of electric power purchased by the Group. The specific emission data is calculated on the basis of total electricity consumption within the reporting scope and with reference to 2011 and 2012 Average Carbon Dioxide Emission Factors for Regional Power Grids in China (《2011年和2012年中國區域電網平均二氧化碳排放因子》) issued by the National Development and Reform Commission;

<sup>6</sup> All hazardous wastes produced by the Group have been treated properly by qualified third parties under engagement;

## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

Indicator	Unit	Data in 2017
<b>Total Non-hazardous Waste Produced and Intensity</b>		
Office Garbage	tonnes	1,371.07
Household Garbage <sup>7</sup>	tonnes	1,931.52
Construction Waste	tonnes	13,043.3
Experiment Waste Residue	tonnes	817.68
Intensity of Non-hazardous Waste Produced	tonnes/person	3.46

### 7.1 Green Construction and Everyone's Involvement

We strictly follow the Atmospheric Pollution Prevention and Control Law of the People's Republic of China (《中華人民共和國大氣污染防治法》), the Management Specification of Green Construction (《綠色施工管理規程》) and the Water Pollution Prevention and Control Law of the People's Republic of China (《中華人民共和國水污染防治法》), and develop internal management systems including Assessment of Compliance with Environmental Laws, Regulations and Other Requirements (《環境法律、法規及其他要求合規性評價》) to control any possible air pollution, noise pollution and water pollution in the construction projects of the Group. The assessment form evaluates the compliance with laws and regulations by construction activities of the Group and puts forward improvement advice in relation to any deficiency, thereby improving the environmental performance of specific project.

In terms of environmental management of construction sites, the Three Systems Management Procedures has clear provision that the Project Department must identify environmental factors of a construction site in accordance with relevant rules set by the Group, including Control Rules on Identification and Assessment of Environmental Factors for Construction Sites (《施工現場環境因素識別和評價控制規定》). The Project Department should submit the Assessment Form for Environmental Factors and the Environmental Management Plan to competent departments and make sure that construction sites would not have material impact on the environment. Then the Project Department puts the Green Construction Management Regulations (《綠色施工管理規定》) into practice to ensure that effective environmental management and pollution control are in place during the construction. When there is possible incident or an environmental incident happens, the Management Department must conduct investigation and take actions in accordance with Construction Contingency Plan and Corresponding Procedures (《施工應急準備與相應程序》).

7 The scope is limited due to collection difficulties, so household garbage does not include the garbage produced by Rail Company;

## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

For waste produced during the construction, we follow requirements of the Three Systems and engage professional agencies to carry out waste recycling and proper waste treatment, and do our best to improve the hygiene of construction sites to minimise negative impact on the environment.

Rail Company refers to relevant rules set by the Group and develops the Green Construction Management Plan of Beijing Urban Rail Transit Construction Engineering Co., Ltd. (《北京城建轨道交通建设工程有限公司綠色施工管理方案》) in alignment with its own business. The construction management plan provides details on construction management objectives, control indicators, management mechanism, control measures and corresponding actions for serious air pollution warning, and proposes to establish green construction leadership team to execute green construction management and to supervise and offer guidance to relevant work of each unit.

### Green Construction Management System of Rail Company (Extract)

Green Construction Inspection Mechanism	<ul style="list-style-type: none"> <li>Green construction inspection on the Management Department of each construction project in progress should be conducted once every month; there would be more inspections in special and sensitive periods.</li> </ul>
Green Construction Monitoring Mechanism	<ul style="list-style-type: none"> <li>If monitoring and measuring results stay above the levels of parameter and requirements, re-measurement is required. If the results still exceed the standard level, an environmental analysis is necessary, and relevant personnel shall conduct investigation and take corresponding measures for prevention and treatment.</li> </ul>
Environmental Protection Measures	<ul style="list-style-type: none"> <li>Cement and other particulate construction materials that are prone to spread to the surrounding should be stored in sealed area, and effective measures should be taken to avoid any dust in the course of utilisation. Earth at construction sites should be in stacks, and should be covered or solidified.</li> <li>Consumption of volatile materials and products, including coating, paint and solvent, should be reduced.</li> </ul>
Serious Air Pollution Warning Mechanism	<ul style="list-style-type: none"> <li>The Project Department must set up air pollution warning group, which is responsible for matters related to air pollution, and inspection and supervision of the implementation progress of construction sites.</li> </ul>

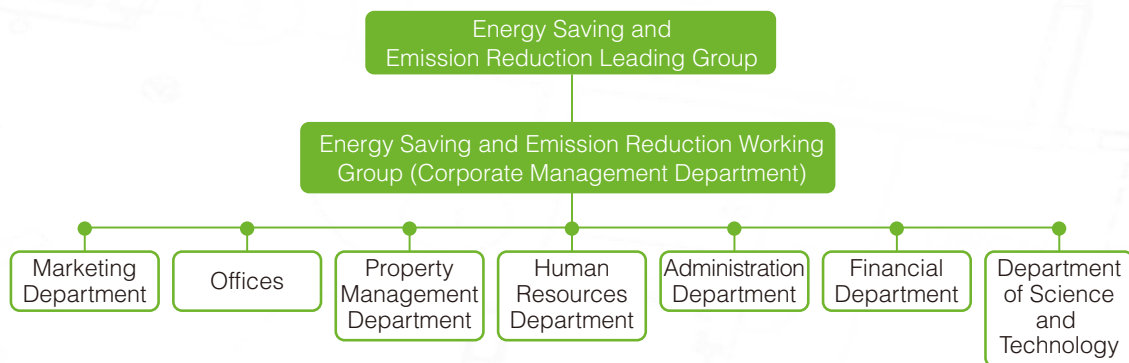


## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

Exploration & Surveying Institute conducts environmental management for its surveying, design and construction businesses in accordance with On-site Green Operation Management Procedures (《現場綠色施工管理程序》), Sewage Discharge Control Procedures (《污水排放控制程序》), Identification, Evaluation and Control Procedures of Environmental Factors and Hazardous Sources (《環境因素和危險源辨識與評價控制程序》) and other environmental management principles set by the Group or by itself. In 2017, Exploration & Surveying Institute complied with all emission and discharge standards in the course of production and service, and reduced incident that causes damage to the environment and the products for prevention and control of geological disasters submitted for assessment have met environmental standards and other relevant environmental management requirements. With the above Group policies and measures, we effectively control the pollution and emissions in the course of construction; we are striving for minimum pollution and emissions when conducting business and plan to commence statistical work about emission reduction in the future.

### 7.2 Energy Saving and Emission Reduction for the Environmentally Friendly Operation

We proactively respond to the appeal of the state and Beijing Municipality, adhere to the scientific outlook on development as the guidance, promote comprehensive, coordinated and sustainable development as the core, and earnestly implement such basic principles of simultaneous implementation of energy saving and emission reduction, equal emphasis on energy saving and emission reduction and science and technology, energy saving and emission reduction in parallel with corporate management, and energy saving as the priority and efficiency as the basis. Pursuant to the Energy Conservation Law of the People's Republic of China (《中華人民共和國節約能源法》), the Decision on Strengthening Energy Saving (《關於加強節能工作的決定》) by the State Council and other relevant laws and regulations, we have established an energy saving management system and set up a special leading group for energy saving and emission reduction works, so as to implement the energy saving and emission reduction policy in the office area of the Group.



Energy Saving and Emission Reduction Management System Diagram

## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

### 7.2.1 Rational Use of Resources

In order to further implement the energy saving management of the Group, we adopt such measures as unified management, quantitative indicators and dynamic settlement to achieve the reduction of resource consumption. Meanwhile, the Group further introduced the Administrative Measures for Energy and Resources Saving (《能源資源節約管理辦法》), striving to create a sound operating environment with orderly management of water and power consumption and control of energy consumption, and to standardize the management of the implementation of energy saving and emission reduction and the management of the monitoring of its achievements and effectiveness, so as to facilitate various departments to implement and achieve the policies and targets for energy saving and emission reduction issued by the Group.

Detailed implementation measures for water and power saving in the office area during the year, and responsibilities of the relevant positions in the functional departments for the management of energy are specified, respectively, in the Objectives and Plan for the Management of Energy for the year 2017 (《2017年能源管理工作目標及方案》), so as to ensure smooth implementation of the whole plan. Upon implementation of the plan, the energy saving awareness of employees of the Group has been enhanced. In the future, we will continue to follow up the implementation of the plan and conduct statistical work of the relevant data.

## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

### Energy saving measures specified in the Objectives and Plan for the Management of Energy for the year 2017

Management of power saving	Power saving of air conditioner	The air-conditioning temperature adjustment shall not be lower than 26 degrees centigrade in summer, and shall not be higher than 20 degrees centigrade in winter; avoid using air conditioner; no air conditioners should be left idle in empty rooms; have the air conditioners off half an hour before end of each working day is advocated.
	Power saving of lighting	Make full use of the natural light; no daytime light or leaving the lights on the whole day; turn off the lights when leaving the room; promote lighting technologies such as solar lights and induction lighting
	Power saving of office equipment	Reduce standby energy consumption; accelerate the elimination of high energy consumption equipment; purchase equipment with energy efficiency labels of Level 2 or above; non-productive electrical equipment (electric stove, microwave oven, etc.) is strictly prohibited
	Improve sub-item measurement	Accurate statistics of power consumption; formulate standards for power consumption; strengthened monitoring, rational deployment, quantitative control, timely inspection and correction of unusual power consumption
Management of water saving	Strengthen equipment inspection, maintenance and renovation	Conduct weekly inspection and checking in the office to replace aged water supply pipelines and equipment and ensure that the water pipe network and water supply equipment are intact
	Cultivate good habits	Shorten the time of running water and close the valve after use; not to wash the mop directly under the running water from a tap
Enhancement of energy saving awareness	Conduct promotion and education	Carry out the energy and resource shortage experience activity in the first week of June and September each year, and have the second week of June each year as the "Resource Conservation Promotion Week"
	Post energy saving labels	Post slogans in the common area and beside facilities and equipment; guide employees to reduce the use of disposable supplies, plastic bags and office stationery; advocate green travel and encourage employee to travel by public transportation or bicycles to reduce the use of private cars

## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)



Energy and water saving slogans in the office area



Solar power streetlight

The Rail Company also regulates and provides guidance to the internal energy saving and emission reduction works pursuant to the relevant laws and regulations and the Measures for Energy Saving and Emission Reduction in the Office Area of Beijing Urban Construction Design & Development Co., Limited (《北京城建轨道交通建设工程有限公司机关办公区节能减排措施》) and in combination with the actual situation of the Rail Company.

### 7.2.2 Strengthening Waste Management

The hazardous wastes generated in the office area by the Group mainly include toner cartridges and waste batteries, and the non-hazardous wastes mainly include paper, plastic and kitchen waste. We engage qualified institution to collect wastes from the Group on a regular basis to ensure that all the wastes generated by the Group can be optimally treated to reduce damage to the environment.

Due to business needs the Exploration & Surveying Institute has compiled and revised the Control Procedures for Solid Waste (《固体废物控制程序》) pursuant to the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste (《中华人民共和国固体废物污染环境防治法》), in which the wastes that are possibly generated by the Exploration & Surveying Institute within its scope of business are categorized as hazardous waste and non-hazardous waste and these two types of wastes are sub-categorized as recyclable and non-recyclable, and the corresponding collection and disposal methods are also specified according to the types of waste generated.

During the Reporting Period, the waste reduction results achieved upon implementation of the above policies and measures are as follows:

Office waste recovery (tonne)	Domestic waste recovery (tonne)	Construction waste recovery (tonne)	Experiment waste residue recovery (tonne)
767.66	751.6	914	41.36



## 7 GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION (CONTINUED)

### 7.3 Environmental Protection Innovations to Protect the Earth

With the deteriorating environmental problems in the contemporary era, we are not satisfied with the improving product quality, but we also proactively respond to the appeal of the nation and the international society to strive to improve our environmental performance in terms of product manufacturing and provision of service. We place an exceptionally high expectations on the significant rail transit design & construction business of the Group, hoping to achieve overall energy saving and emission reduction in the rail transit industry through the development of new energy saving technologies. To this end, we constantly seek to achieve breakthroughs in technology and improve the environmental performance of the rail transit design & construction business. Internally, we proactively explore and encourage scientific research centers to develop highly efficient energy saving technologies; externally, we proactively participate in the industry-wide seminars on the development of energy saving technologies and seek for clean development of rail transit together with other institutions in the industry and various scientific research institutions.

### Case: The First China Urban Rail Transit Energy Saving Technology Summit was Successfully held

As a leading enterprise in the energy saving field of the urban rail transit industry, the Group was invited, as the vice chairman unit of the Urban Rail Transit Energy Conservation Committee of China Energy Conservation Association and the chairman unit of the Urban Rail Transit Energy Conservation Committee, to hold and participate in the Inaugural Meeting of the Urban Rail Transit Energy Conservation Professional Committee of China Energy Conservation Association and the 2017 (First) China Urban Rail Transit Energy Conservation Technology Summit Forum held on 1-2 December 2017 in Beijing. Taking "green operation of the urban rail transit for energy saving and energy consumption reduction" as the theme, five major topics, namely, "interpretation of the national energy saving and emission reduction policies", "operation energy consumption and energy saving technology", "ventilation and air-conditioning energy saving technology", "vehicle traction energy consumption and power supply energy saving technology" and "lighting and control energy saving technology", were discussed in details at the meeting. The Group representatives, multiple participants of the meeting and industry experts engaged in heated discussions on hot topics such as the technology development trend for the green operation of urban rail transit.



## 8 COMMITTED TO MAKING CONTRIBUTIONS AND GIVING BACK TO THE SOCIETY

While achieving the business development goals, UCD bears in mind that we should proactively assume our social responsibilities and personally contribute to the sustainable development of the society as a whole. As an enterprise that constructs high-quality rail transit, we sincerely hope that the public rail transit industry is conducive to the acceleration of the development of transportation in China and promotion of the construction of public transportation throughout the country to better serve the public. Meanwhile, the Group actively participate in public welfare activities and advocate the Group and member companies to carry out volunteer activities.

### 8.1 Urban Construction Leads to Change

In the era of rapid development of public rail transit, we, as an engineering designer or a project contractor, have devoted ourselves to the construction of public rail transit in cities across the Mainland China, contributing to the progress and development of public transportation in China. In 2017, we newly designed/undertook additional domestic rail transit projects as compared to 2016, and achieved breakthrough in rail transit in some domestic cities from scratch during the year.

#### Case: The Changchun Metro Line 1 officially commenced trial operation, leading Changchun to the “Metro Era”

On 30 June 2017, the very first metro line in Jilin Province with the largest individual investment, the most extensive coverage and the highest social attention was officially opened for trial operation. The Group undertook the project in 2009, and was led by the Changchun Branch to ensure the smooth opening of the Changchun Metro Line 1. After years of design and construction, the Changchun Metro Line 2 was “piled up” by the designers with over 100,000 sheets of drawings. According to the local environmental conditions in Changchun, the train was particularly strengthened in terms of the overall cold resistance capability, which is able to operate safely even at low temperature of -35 degrees centigrade.





## 8 COMMITTED TO MAKING CONTRIBUTIONS AND GIVING BACK TO THE SOCIETY (CONTINUED)

### **Case: The Shijiazhuang Rail Transit Line 1, the first metro line in Hebei Province, was officially opened for trial operation**

On 26 June 2017, the Shijiazhuang Metro Line 1, after five years of construction, was officially opened. Shijiazhuang is the 29th city in China and the first city in Hebei Province to have metro under operation. The metro line bears the expectations of all the Hebei people, representing the official arrival of Hebei's "Metro Time" to effectively alleviate urban traffic pressure, enhance the city image and stimulate economic growth. Wang Qi, dean of the Design Institute, Shijiazhuang Branch of the Group and the person in charge of the design of Line 1, participated in the opening ceremony.



## 8 COMMITTED TO MAKING CONTRIBUTIONS AND GIVING BACK TO THE SOCIETY (CONTINUED)

### **Case: The commencement ceremony for the major municipal engineering of stage I of phase II of the K.K. project in República de Angola was held**

In addition to achieving breakthroughs in public transportation in some domestic cities, we also respond to the appeal of the nation and serve for the “Belt and Road” strategy formulated by the nation. On 24 April 2017, the commencement ceremony of the major municipal engineering of stage I of phase II of the K.K. project in the República de Angola, which UCD was responsible for its survey and design, was held. Both the Minister of Construction and the governor of Luanda of the República de Angola stated that the project will effectively improve the living standards of its people, and it is also an embodiment of the enhanced cooperation between China and the República de Angola.



### **8.2 Devoting to Public Welfare and Showing of Love**

As a member of the society, UCD bears the hope to, with our efforts, help the people in need and improve their lives.

In 2017, the Group participated in multiple relief projects held from June to July, such as the “Love for Life” medical assistance charity project, the “Love for the Future” education assistance charity project, the “Love for the Elderly” charity project to show care for the elderly, and assistance for Party members who are struggling for a better life. Among which, the Exploration & Surveying Institute donated a total of nearly RMB20,000 in a series of donation activities, reflecting its commitment to the society. The Party members of the Party Committee of the Rail Company donated a total of RMB6,400; the Youth League Committee organized the “Warm Winter Clothes” donation activity which brought warmth to people who lacked winter clothing.



## 8 COMMITTED TO MAKING CONTRIBUTIONS AND GIVING BACK TO THE SOCIETY (CONTINUED)

### **Case: Teenage Volunteers of the Exploration and Survey Institute in the “Five Major Youth Activities”, a Community Volunteer Service**

A group of teenage volunteers from the Exploration & Surveying Institute General Branch Organization Institute, along with AnHui DongLi Community Branch Committee, a total number of more than 20 people, has launched the Environment Sanitation and Cleaning Volunteer Services in Old Communities and Civilized Outing Volunteer Activities, in the morning of 20 October 2017. The major content of cleaning activities includes removal of flyers pasted to the walls, scrubbing the railings clean, removal of garbage and repositioning the shared bicycles within buildings and corridors of the small community of AnHui DongLi. This activity has strengthened the League members' spirit of volunteering and has displayed our excellent tradition.



## 8 COMMITTED TO MAKING CONTRIBUTIONS AND GIVING BACK TO THE SOCIETY (CONTINUED)

### Case: Dire situation of heavy rainstorm in Beijing on 21 July 2017

Soon after the Beijing Drainage Group Co., Ltd discovered in their patrol an abnormality from a deep buried pipe in the Haidian District, the Exploration & Surveying Institute immediately deployed their backbone force on site to the rescue mission. In less than an hour, all personnel, machines and equipment were deployed and the team had begun the mission according to the rescue plan. After 24 consecutive hours of struggle, the team successfully surveyed the underground space and geological condition, prepared the subsequent emergency repairs with solid scientific foundation, and earned invaluable buffer time for laying new pipes.



## 9 INDEX TO THE ESG REPORTING GUIDE

### A. Environmental

General Disclosure and Key Performance Indicator	Description	Chapter for Disclosure
<b>Aspect A1: Emission</b>		
General Disclosure	Information on:  (a) the policies; and  (b) compliance with relevant laws and regulations that have a significant impact on the issuer  relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	7. GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION
Key Performance Indicator	A1.1 The types of emissions and respective emissions data.	7. GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION
	A1.2 Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	7. GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION
	A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	7. GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION
	A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	7. GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION
	A1.5 Description of measures to mitigate emissions and results achieved.	7.1 Green Construction and Everyone's Involvement
	A1.6 Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	7.2.2 Strengthening Waste Management

## 9 INDEX TO THE ESG REPORTING GUIDE (CONTINUED)

General Disclosure and Key Performance Indicator	Description	Chapter for Disclosure
<b>Aspect A2: Use of Resources</b>		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	7.2.1 Rational Use of Resources
Key Performance Indicator	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).	7. GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION
	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	7. GREEN DEVELOPMENT AND COMMITMENT TO ENVIRONMENTAL PROTECTION
	A2.3 Description of energy use efficiency initiatives and results achieved.	7.2 Energy Saving and Emission Reduction for the Environmentally Friendly Operation
	A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	7.2.1 Rational use of Resources
	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not applicable
<b>Aspect A3: The Environment and Natural Resources</b>		
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources.	7.1 Green Construction and Everyone's Involvement
Key Performance Indicator	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	7.1 Green Construction and Everyone's Involvement



## 9 INDEX TO THE ESG REPORTING GUIDE (CONTINUED)

### B. Social

General Disclosure and Key Performance Indicator	Description	Chapter for Disclosure
<b>Aspect B1: Employment</b>		
General Disclosure	Information on:  (a) the policies; and  (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	6.1 Talent Strategy and Workforce Enhancement
Key Performance Indicator	B1.1 Total workforce by gender, employment type, age group and geographical region.	6.1 Talent Strategy and Workforce Enhancement
	B1.2 Employee turnover rate by gender, age group and geographical region.	6.1 Talent Strategy and Workforce Enhancement
<b>Aspect B2: Health and Safety</b>		
General Disclosure	Information on:  (a) the policies; and  (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	6.3 Care for Health and Safety Guarantee
Key Performance Indicator	B2.1 Number and rate of work-related fatalities.	under calculation
	B2.2 Lost days due to work injury.	under calculation
	B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored.	6.3.2 Work Safety Guarantee

## 9 INDEX TO THE ESG REPORTING GUIDE (CONTINUED)

General Disclosure and Key Performance Indicator	Description	Chapter for Disclosure
<b>Aspect B3: Development and Training</b>		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	6.2 Common Progress and Great Achievements
Key Performance Indicator	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	under calculation
	B3.2 The average training hours completed per employee by gender and employee category.	under calculation
<b>Aspect B4: Labour Standards</b>		
General Disclosure	Information on:  (a) the policies; and  (b) compliance with relevant laws and regulations that have a significant impact on the issuer  relating to preventing child and forced labour	6.1.1 Talent Recruitment
Key Performance Indicator	B4.1 Description of measures to review employment practices to avoid child and forced labour.	6.1.1 Talent Recruitment
	B4.2 Description of steps taken to eliminate such practices when discovered.	6.1.1 Talent Recruitment
<b>Aspect B5: Supply Chain Management</b>		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	5.2.3 Win-win Cooperation
Key Performance Indicator	B5.1 Number of suppliers by geographical region.	5.2.3 Win-win Cooperation
	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	5.2.3 Win-win Cooperation

## 9 INDEX TO THE ESG REPORTING GUIDE (CONTINUED)

General Disclosure and Key Performance Indicator	Description	Chapter for Disclosure
<b>Aspect B6: Product Responsibility</b>		
General Disclosure	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer</p> <p>relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.</p>	5. QUALITY OPERATION AND VALUE CREATION
Key Performance Indicator	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Not applicable
	B6.2 Number of products and service related complaints received and how they are dealt with.	5.1.3 Continuous Exchange and Communication
	B6.3 Description of practices relating to observing and protecting intellectual property rights.	5.1.2 Positive Technological Innovation
	B6.4 Description of quality assurance process and recall procedures.	5.1.1 Consolidating Business Development
	B6.5 Description of consumer data protection and privacy policies, how they are implemented and monitored.	5.1.1 Consolidating Business Development

## 9 INDEX TO THE ESG REPORTING GUIDE (CONTINUED)

General Disclosure and Key Performance Indicator	Description	Chapter for Disclosure
<b>Aspect B7: Anti-corruption</b>		
General Disclosure	Information on:  (a) the policies; and  (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	5.2.2 Anti-corruption
Key Performance Indicator	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.	5.2.2 Anti-corruption
	B7.2 Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	5.2.2 Anti-corruption
<b>Aspect B8: Community Investment</b>		
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.	8. COMMITTED TO MAKING CONTRIBUTIONS AND GIVING BACK TO THE SOCIETY
Key Performance Indicator	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	8.1 Urban Construction Leads to Change
	B8.2 Resources contributed (e.g. money or time) to the focus area.	8.2 Devoting to Public Welfare and Showing of Love



# FEEDBACK FORM FOR READERS

Dear Readers:

We thank you for taking the time to read the 2017 ESG Report of Beijing Urban Construction Design & Development Group Co., Limited (the "Report"). In order to provide you with more valuable information and meanwhile to promote our company's performance in sustainable development, and enhance our ability and level in fulfilling corporate social responsibility, we sincerely look forward to your comments and suggestions regarding this Report and our work. You can give us your feedback through the following ways:

Our Contact Details:

Address: No. 5 Fuchengmen North Street, Xicheng District, Beijing

Telephone: 8610-8833 6868

Fax: 8610-8833 6763

**1. Which of the following stakeholders of UCD do you belong to?**

- ☐ Shareholder   ☐ Employee   ☐ Supplier   ☐ Customer   ☐ Government  
☐ Community   ☐ Bank   ☐ Academic institution   ☐ Other (please specify\_\_\_\_\_)

**2. What is your overall evaluation for this Report?**

A. Readability (i.e. easy to understand, beautiful design, and easy to find out the required information)

- ☐ 3 (good)   ☐ 2 (general)   ☐ 1 (poor)

B. Credibility (i.e. whether the information in this Report is true and reliable)

- ☐ 3 (good)   ☐ 2 (general)   ☐ 1 (poor)

C. Completeness (i.e. whether the Report includes both positive and negative aspects of performance and keeps you well-informed)

- ☐ 3 (good)   ☐ 2 (general)   ☐ 1 (poor)

**3. In addition to the contents that have been disclosed in this Report, what kind of information do you prefer to read?**

--



**北京城建设计发展集团股份有限公司**

BEIJING URBAN CONSTRUCTION DESIGN & DEVELOPMENT GROUP CO., LIMITED