



**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



**2018**

**ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT**

# Contents

1 ABOUT THIS REPORT	2	5.3 Superb Quality	27
1.1 Objective of the Report	2	5.3.1 Project Quality	27
1.2 Scope of the Report	2	5.3.2 Service Quality	29
1.3 Reference	2	5.4 Win-Win Cooperation	30
1.4 Responsibility of Directors	3	6 STRUGGLE: TAKING STRUGGLING WITH	
1.5 Report Guideline	3	EFFORTS AS THE GUIDELINE AND	
1.6 Report Description	3	PROMOTING SHARED GROWTH	32
1.7 Response to this Report	3	6.1 Scientific Talent Management	32
2. MESSAGE FROM THE MANAGEMENT	4	6.1.1 Talent Recruitment	32
3 GROUP PROFILE	7	6.1.2 Staff Management	34
4 SUSTAINABLE DEVELOPMENT		6.2 Strengthening of Staff Training	37
MANAGEMENT	9	6.3 Promotion of Integrity Construction	38
4.1 ESG Management Structure	9	7 INNOVATION: TAKING ENVIRONMENTAL	
4.2 Stakeholders Engagement	10	PROTECTION AS THE RULE AND	
4.3 Assessment of Material Issues	11	REALIZING LONG-TERM DEVELOPMENT	40
4.4 QHSE Management System	15	7.1 Resource Management	40
5 INGENUITY: AIMING FOR EXCELLENCE		7.1.1 Energy Management	40
AND BUILDING THE FUTURE	17	7.1.2 Water Resource Management	42
5.1 Work Safety	17	7.2 Emission Management	44
5.1.1 Management and Supervision		7.2.1 Management Policy	44
System	17	7.2.2 Control Measures	44
5.1.2 Training and Emergency Drill	20	7.3 Environmental Performance	46
5.1.3 Occupational Health and Safety	22	8 RESPONSIBILITY: BEING COMMITTED TO	
5.2 Technological innovation	24	BENEFIT SHARING AND REPAYING THE	
5.2.1 Innovative Technology		SOCIETY	52
Management	24	8.1 Sharing of Achievements with Society	52
5.2.2 Promotion of Industry Exchanges	26	8.2 Devotion and Donation to Society	54
		9 INDEX OF ENVIRONMENTAL, SOCIAL AND	
		GOVERNANCE REPORTING GUIDE	56



# 1 ABOUT THIS REPORT



## 1.1 Objective of the Report

This report is to provide the environmental and social performance of Beijing Urban Construction Design & Development Group Co., Limited. (hereinafter referred to as “UCD”) during 2018, and to respond to issues which stakeholders are concerned about and that are related to sustainable development. This report should be read in conjunction with the “Corporate Governance Report” as set out on page 94 of the annual report for the year, so that all stakeholders are able to fully understand UCD’s sustainable development concept, measures and relevant performance.

## 1.2 Scope of the Report

This report covers 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). Specific statistical scope of some environmental data will be illustrated in the “Environmental Performance” section.

Unless otherwise indicated, the reporting period is from 1 January 2018 to 31 December 2018 (hereinafter referred to as the “Reporting Period”).

## 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. (北京城建勘测设计研究院有限责任公司), a member company, is referred to as “Exploration & Surveying Institute”, while Beijing Urban Rail Transit Construction Engineering Co., Ltd. (北京城建轨道交通建设工程有限公司), 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 ABOUT THIS REPORT (CONTINUED)

## 1.4 Responsibility of Directors

Through assessment of risks and opportunities related to environmental, social and governance (hereinafter referred to as “ESG”) matters, Directors of the Group formulate ESG management principles, strategies, priorities and objectives, and define the reporting scope of this report. In addition, Directors ensure that the Group sets appropriate and effective risk management and internal monitoring systems, review the disclosure content of this report and assume overall responsibility for ESG matters of the Group.

## 1.5 Report Guideline

This report is prepared by the Group in compliance with the *Environment, Social and Governance Reporting Guide* (hereinafter referred to as the “Guide”) set out in Appendix 27 to the *Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited* published by The Stock Exchange of Hong Kong Limited (hereinafter referred to as the “Hong Kong Stock Exchange”). This report has complied with all “comply or explain” provisions set out in the Guide, and has been prepared in accordance with the four reporting principles: materiality, quantitative, balance and consistency. The compliance with the Environment, Social and Governance Reporting Guide is summarized in the “Index of Environmental, Social and Governance Report”. This report is also prepared with reference to Sustainability Reporting Guidelines of Global Reporting Initiative (GRI Standards).

## 1.6 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.

## 1.7 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. Please feel free to contact us via the following methods:

Beijing Urban Construction Design & Development Group Co., Limited  
Address: 12A, Block D, Hengtai Center, No.18 Fengtai North Road, Fengtai District, Beijing, PRC  
Post code: 100071  
Tel: +(86) 10 8833 6868  
Fax: +(86) 10 8833 6763  
E-mail: ir@bjucd.com





## 2 MESSAGE FROM THE MANAGEMENT

Rail transit is the lifeline of the PRC national economy and the backbone of traffic and transportation. It not only undertakes substantially all of the State's strategic and economic materials transportation, but also undertakes passenger transport function, and performs great efforts in facilitating the delivery of national resources, enhancing exchange between economic zones, solving urban traffic congestion and other aspects.

Adaptive to the rapid development mode of the city, under the circumstances that the construction of urban rail transit began to move towards fast development stage, UCD has pursued optimized design and management and met the long-term needs of society with its own expertise and advantages. Sustainable development is an irresistible general trend, in line with the Group's guiding development policy of "scientific management, super quality, continuous improvement, and customer satisfaction". Adhered to the corporate core values of "customer first, fighting will as the foundation, integrity and pragmatism, pursuit of excellence", UCD will seize the opportunity arise from the national trend of green development and continue to create values for the community.

Under the new normal, in fighting the battle of pollution prevention and control and promoting the establishment of ecological civilization to enter into a new phase, the Group insists on the new concept of development, inherits from the past and paves way for the future by regarding pollution prevention and control as its major obligation and vigorously giving impetus to green development.



## 2 MESSAGE FROM THE MANAGEMENT (CONTINUED)

The Group is committed to leading the progress of new technologies and new ideas in the industry and assuming the responsibility of advancing the industry development. With the economic, social and environmental changes, expectations from the general public toward life experience continues to increase. UCD embraces the vision of “becoming an integrated service provider of urban construction directed by design”.

Attributed to the efforts made by all of the Group's employees, UCD has the ability and opportunities to build and serve the society. The Group's pursuit of employee safety never ends. We have established clear systems and guidelines as well as pragmatic dialogues and exchanges to safeguard the well-being and interests of our employees, and we hope to create a satisfactory working environment for them. In addition, the Group strives to build a development platform for employees, improve the remuneration and welfare systems, and further give employees the room for realization of their own values; establish a solid corporate culture as to enhance its overall ability to achieve sustainable development.

UCD standardizes the conduct of employees to maintain a fair and honest occupational environment. Adherence to professional ethics helps the Group reduce corporate governance risks and set an example to lead the sector to fulfill social responsibilities and establish a more transparent and healthy industrial chain. With respect to project management, we aim at satisfying the needs of facility users and concerning about customer safety and health through quality management.

In urban rail design, engineering, exploration and other different business segments, in strictly accordance with the requirements of various national environmental protection laws and regulations, UCD pays attention to dust and noise control in engineering and exploration businesses, properly handles construction waste, protects the ecological environment, and adopts various measures to reduce energy and water resources consumption, and achieve green, civilized and safe construction works.



## 2 MESSAGE FROM THE MANAGEMENT (CONTINUED)

UCD believes that social-building and environmental protection can coexist. UCD lives in harmony with the society, understands the demands of vulnerable groups in the society through exchanges and then carries out targeted care and charity events to further consolidate the Group's environmental, social and governance initiatives and objectives.

UCD proactively contributes to the construction of urban public transportation network, advocates the concept of green travel, and strives to accomplish its own sustainable development whilst lowering urban greenhouse gas emissions, by use of modern, convenient and fast methods to alleviate the pressure on social progress brought by climate change.

In addition, UCD attaches importance to communication with stakeholders and maintains close communication with stakeholders including shareholders, government, customers, employees, suppliers and society during the operation process, and actively responds to the requests of each party so as to realize harmonious and united growth among various parties.

We understand that we have to undergo a long process with heavy responsibilities in order to advance our efforts in sustainable development. We look forward to sharing the challenges thereof and discussing the action plan with stakeholders through periodic publication of sustainability reports and organization of liaison activities for sustainability development.



### 3 GROUP PROFILE

The Group was founded in 1958 for the construction of the first subway in China. After 60 years of accumulation and development, its business covers fields including urban rail transit, integrated transportation hubs, underground space development, industrial and civil buildings, municipal engineering, bridges and roads. We also provide customers with professional, high-quality full-services including pre-project consulting, planning, surveying and mapping, design, project management and project general contracting.

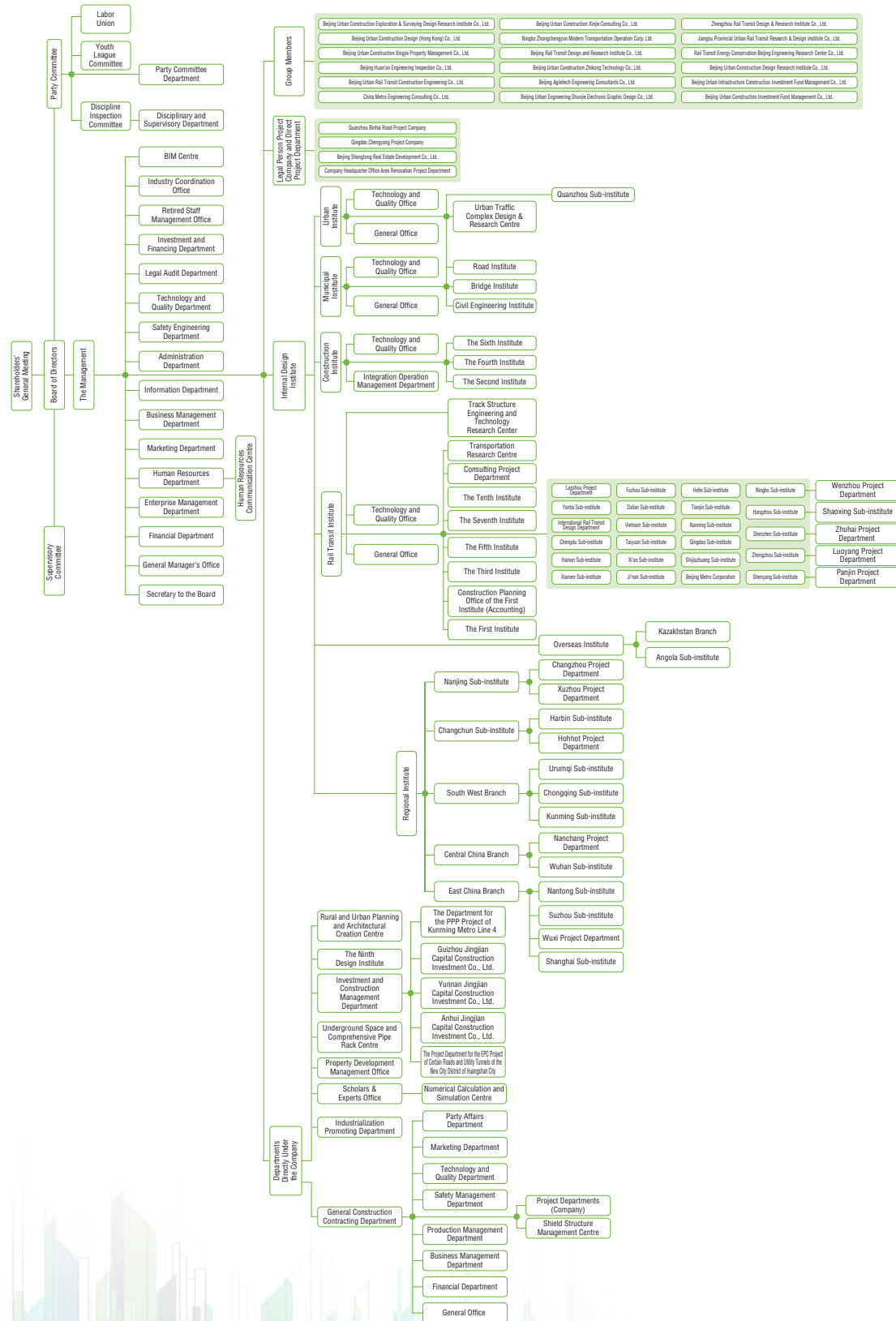
We have an established business presence in more than 60 cities of China and have set up branches or offices in more than 50 cities. Furthermore, we have also expanded our business in other countries, such as Angola, Vietnam, Russia, Pakistan, Kazakhstan, Mozambique, Ethiopia and Maldives.





## 3 GROUP PROFILE (CONTINUED)

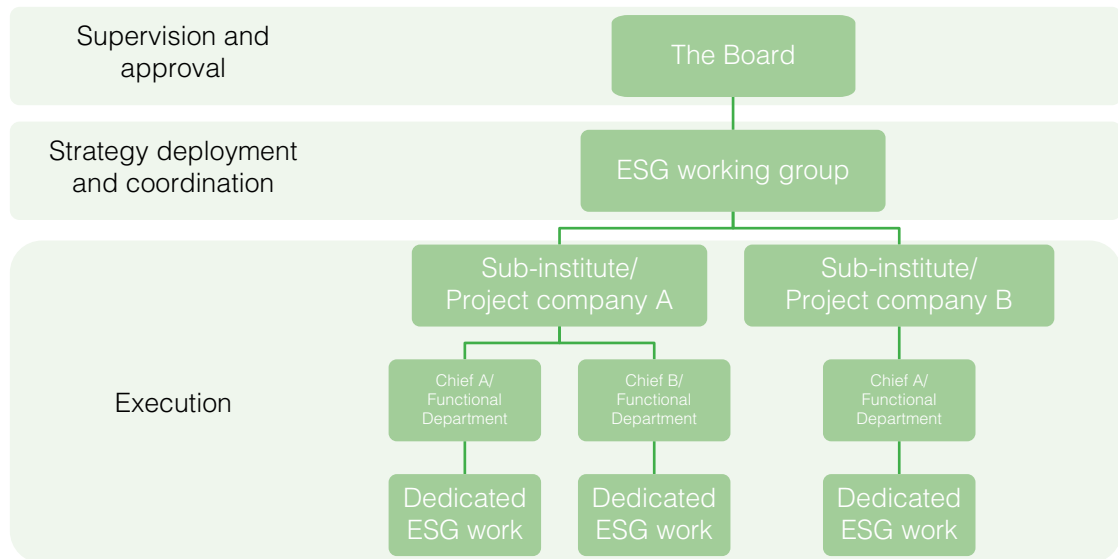
## Organizational Structure of Beijing Urban Construction Design &amp; Development Group Co., Limited



## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT

### 4.1 ESG Management Structure

To optimize the management of matters related to sustainable development, the Group improved the ESG management system by referring to “How to Prepare an ESG Report” of Hong Kong Stock Exchange during the Reporting Period, and incorporated ESG management into the decision making and management of the Company.



**Figure: ESG Management System of the Group**

In the ESG management system of the Group, the ESG working group reports environmental, social and governance work to the Board, makes strategy deployment under the leadership of the Board and keeps track of execution, monitoring, reporting and continuous improvement. In addition to arrangement and coordination for the preparation of this report, the ESG working group is responsible for communicating with stakeholders, organizing and engaging stakeholders to participate in the survey and materiality assessment, serving as an important part in the ESG work of the Group.

## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)

### 4.2 Stakeholders Engagement

Understanding of stakeholders' expectations to the Group is of great importance to sustainable development management, the Group strives to maintain a friendly relationship with stakeholders. During the Reporting Period, we further understood the needs of stakeholders and responded to their expectations through the following ways.

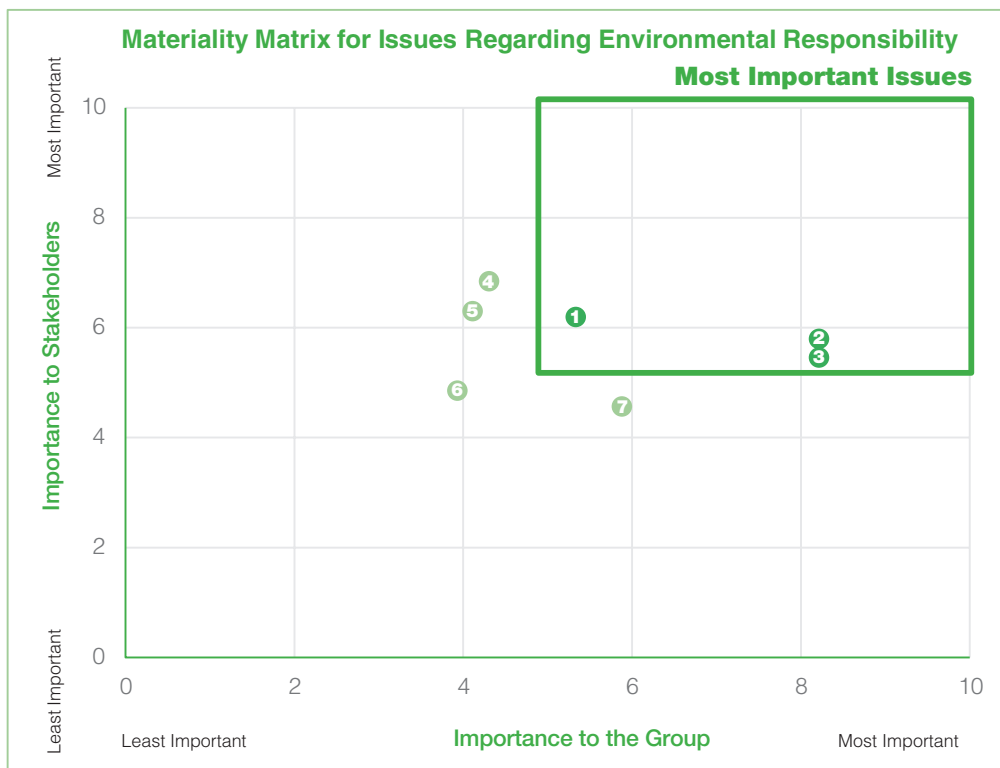
Stakeholders	Needs and Expectations	Communication and Response
Government	Compliance with laws and regulations Payment of taxes Support for economic development	Operation in compliance with relevant laws and regulations Payment of taxes in compliance with relevant regulations
Investors	Return on investment Growth of business and earnings Risk management Information disclosure	Transparent and regular disclosure of information General investor meetings Investor summits Roadshows
Customers	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
Employees	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
Business partners	Open, fair and equitable purchases Compliance with contracts	Execution of contracts Open tendering
Community and the public	Community development Charities	Assistance in community construction Public welfare undertakings Regular organization of volunteer activities

## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)

### 4.3 Assessment of Material Issues

Based on the database for 2016–2017, the Group enriches the database with reference to the guideline for preparing this report and the business characteristics, categorizes issues into three aspects, namely environmental responsibility, staff responsibility and operation responsibility, and selects a total of 24 issues. Through sending questionnaires to staff of the Group, the ESG working group collects staff's priorities to issues which they are concerned about as stakeholders; by sending questionnaires to senior management, the ESG working group understands and assesses the materiality of issues to the Group.

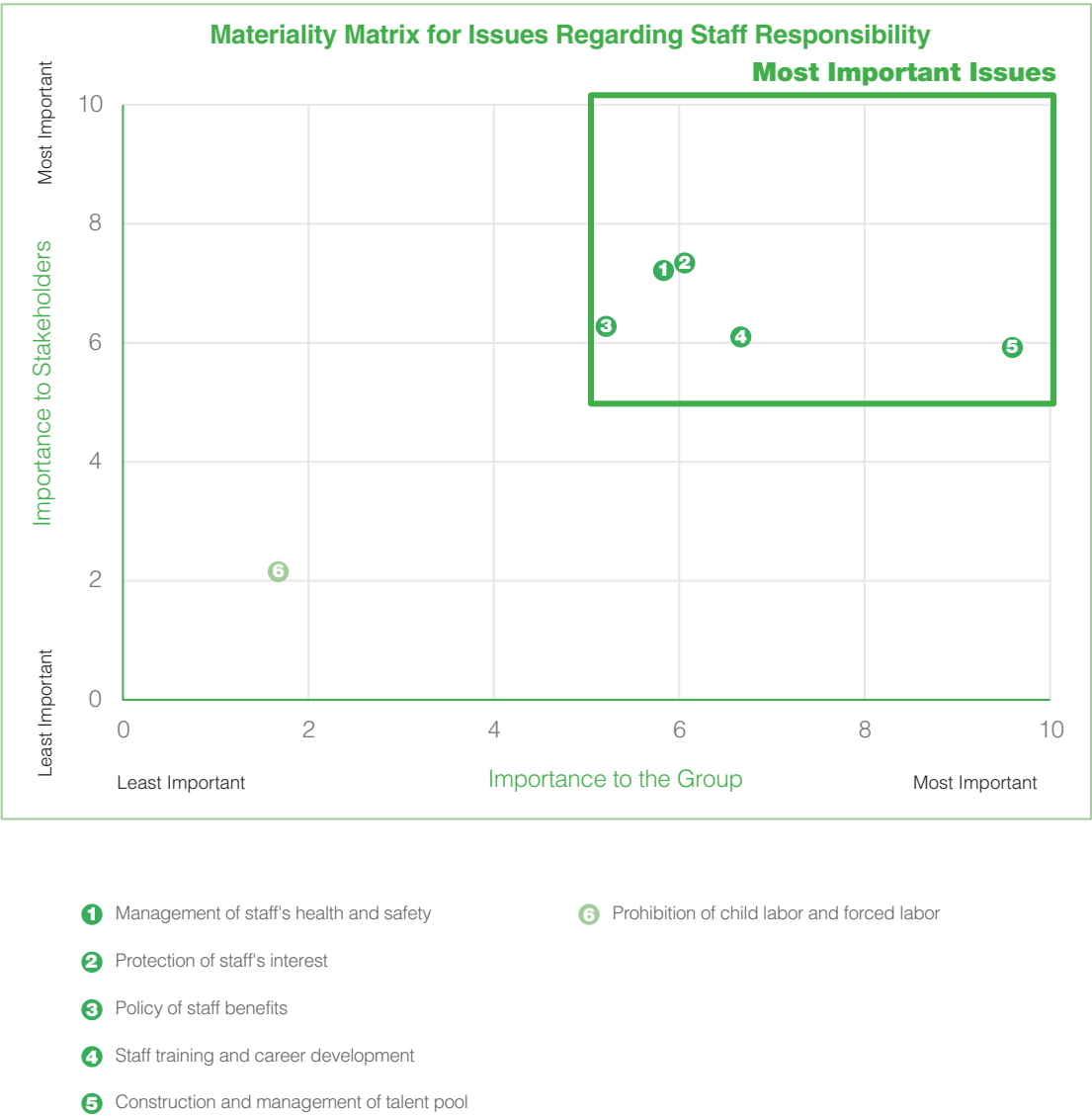
Through scoring and analysis of results of these questionnaires, we develop the materiality matrix for the three aspects.



- |  |   |
|--|---|
| ① Management of water resource utilization | ④ Discharge and management of pollutants  |
| ② Green office policy management           | ⑤ Discharge and management of waste   |
| ③ Management of energy utilization         | ⑥ Discharge and management of greenhouse gas  |
|  | ⑦ Ecological and environmental protection<br>(such as participation in environmental protection activities) |

**Figure: Assessment Matrix for Issues Regarding Environmental Responsibility**

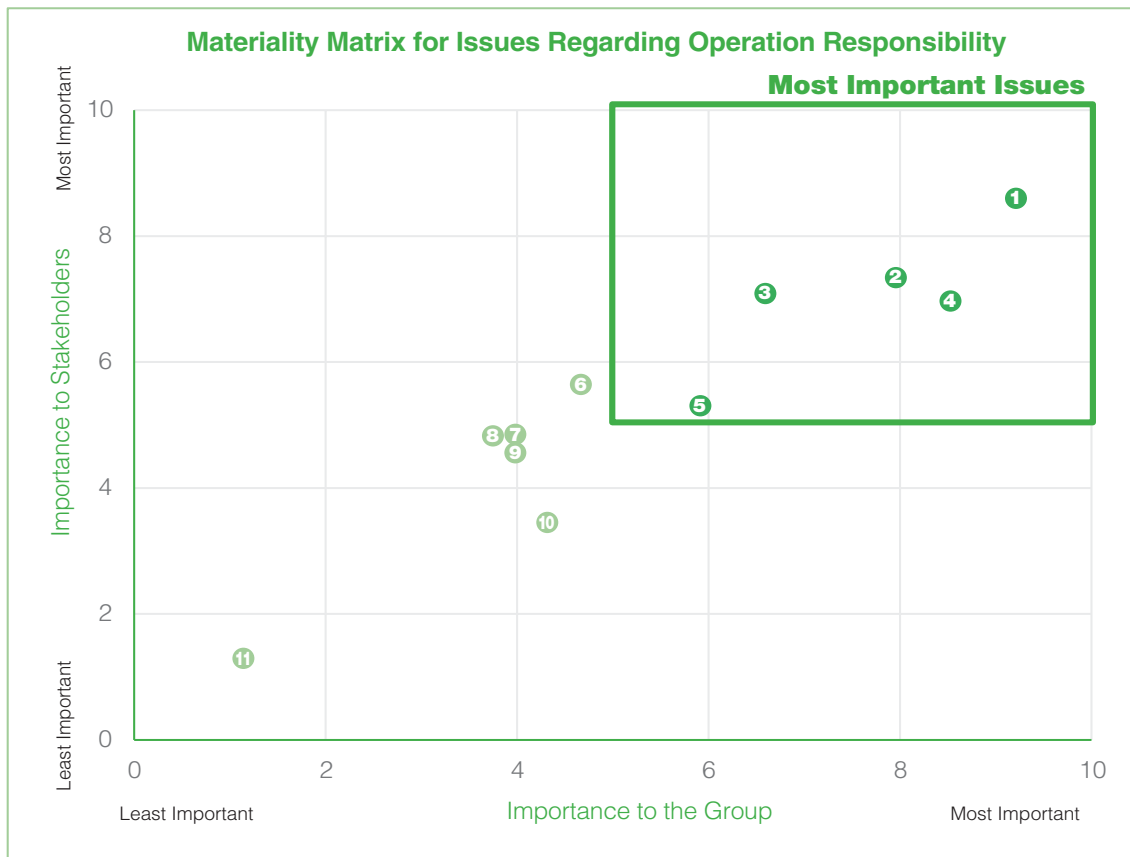
4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)



**Figure: Assessment Matrix for Issues Regarding Staff Responsibility**



## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)



- |  |  |
|--|--|
| ① Work safety                          | ⑥ Protection of intellectual property            |
| ② Service quality                      | ⑦ Selection and management of suppliers          |
| ③ Project quality                      | ⑧ Protection of customers' privacy               |
| ④ Technological innovation             | ⑨ Prevention of violation of laws and discipline |
| ⑤ Standardization of tendering process | ⑩ Communication with stakeholders                |
|  | ⑪ Social investment (charitable)                 |

**Figure: Assessment Matrix for Issues Regarding Operation Responsibility**

## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)

Selecting issues with relatively higher materiality to stakeholders and the Group in the materiality assessment matrix, we identify 13 most important issues and rank them from high score to low score. We will focus on disclosure of these most important issues in this report, so as to answer stakeholders' demand for information in such aspects.

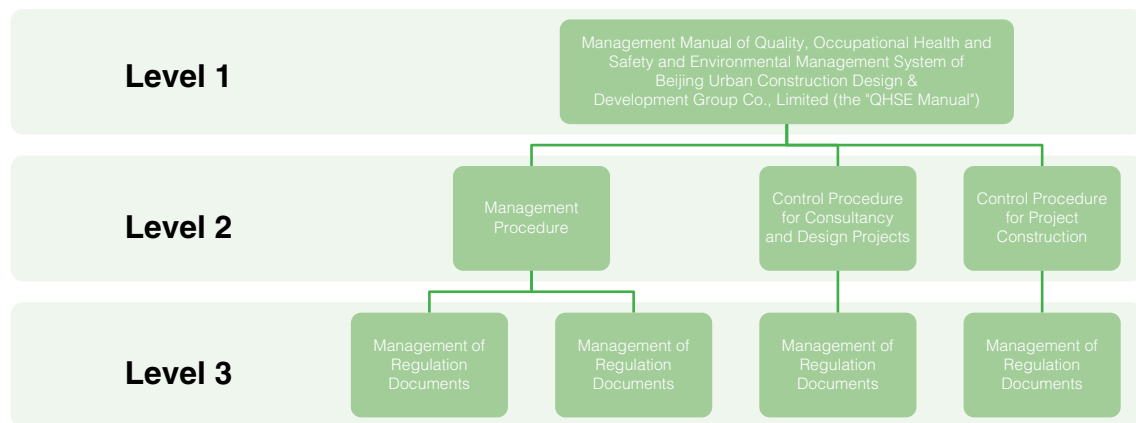
Order of Materiality (From High to Low)	Issue
<b>Environment Responsibility</b>	
1	Green office policy management
2	Management of energy utilization
3	Management of water resource utilization
<b>Staff Responsibility</b>	
1	Construction and management of talent pool
2	Protection of staff's interest
3	Management of staff's health and safety
4	Staff training and career development
5	Policy of staff benefits
<b>Operation Responsibility</b>	
1	Work safety
2	Technological innovation
3	Service quality
4	Project quality
5	Standardization of tendering process



## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)

### 4.4 QHSE Management Systems

Basing on company management and operation and referring to national standards including Quality management systems – Requirements (GB/T 19001–2016/ISO 9001:2015), Environmental management systems – Requirements with guidance for use (GB/T 24001–2016/ISO 14001:2015), Occupational Health and safety management systems – Requirements (GB/T 28001–2011) and Code for quality management of engineering construction enterprises (GB/T 50430–2017), the Group set up a quality, occupational health and safety and environmental management system (the “QHSE System”) to manage the whole process of consultancy and design, surveying and construction contracting businesses. With a three-level management structure, the system provides a systematic procedure guidance and policy guarantee from three aspects of quality, environment and occupational health and safety.



**Figure: Document Structure and Composition of QHSE System**

The management procedure document in Level 2 of the QHSE System is Management Procedure Document of Quality, Occupational Health and Safety and Environmental Management System of Beijing Urban Construction Design & Development Group Co., Limited (the “QHSE Procedure Document”). On the basis of basic procedure setting as set out in the QHSE Manual, the QHSE Procedure Document sets procedure standards for 20 projects in the course of group management and operation, and significantly improves the effectiveness and operability of the whole system.

## 4 SUSTAINABLE DEVELOPMENT MANAGEMENT (CONTINUED)

Control procedure for system document and internal audit	Management procedure for strategic objective	Document control procedure	Risk management procedure	Management procedure for contract review
Standardize system document management and assessment of company's internal audit and management	Improve management structure, and standardize the setting of operation strategies	Ensure the validity and timeliness of documents used by all departments	Achieve the effective assessment of risks and make corresponding response strategy	Ensure the contract is entered into is in compliance with laws, policies and internal requirements of the Company
Marketing control procedure	Quality inspection and improvement procedure	Procedure document on knowledge management	Project management procedure	Procedure for planning of construction project management
Standardize the effectiveness of the bidding information and the integration of marketing of the Company and its units	Achieve effective control on quality supervision and inspection of engineering projects	Realize sharing, accumulation, effective delivery and application of corporate knowledge within the Group	Standardize the project management system, and clarify project management procedures and work requirements	Standardize the management planning of construction projects
Operation and management procedure of construction projects	Seal management procedure	Information management procedure	File management procedure	Control procedure for laws, regulations and other requirements
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 entities in the QHSE System, and 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

**Figure: QHSE Management Procedure Document**

## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE

Upholding the values of “customer first, fighting will as the foundation, integrity and pragmatism, pursuit of excellence” and devoting to the mission that “Design the City, Build the Future”, the Group provides clients with professional services including preliminary consultancy, planning, surveying and mapping, design, project management and construction contracting. In 2018, the scientific and systematic management of business operation and supplier selection ensured that the Group provided clients with safe, reliable and high-quality products and services.

This section focuses on the following material issues about which stakeholders were concerned

Work safety	Technological innovation	Service quality
Project quality	Standardization of tendering process	Management of staff' health and safety

### 5.1 Work Safety

#### 5.1.1 Management and Supervision System

Work safety is a key issue about which stakeholders of the Group were most concerned, and is also a work focus of the Group for a long period of time. We guarantee the safety in the course of work by establishing a systematic management model and implementing a strict supervision and inspection system. In 2018, the Group has complied with the provision that construction enterprises should set work safety management organizations or appoint designated work safety management personnel as stipulated in the *Work Safety Law of the People's Republic of China*, and the requirement about establishing a sound work safety accountability system and strengthening work safety education and training as set out in the *Construction Law of the People's Republic of China*. The Group established the Work Safety Committee and developed a series of work safety execution procedures and management regulations on the basis of QHSE system, to ensure that national and local laws and regulations have been observed and all work safety management objectives have been realized.





## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

Major Management Policies about Work Safety
Work Safety Accountability System of Beijing Urban Construction Design & Development Group Co., Limited (《北京城建設計發展集團股份有限公司安全生產責任制》)
Work Safety Education and Training System of Beijing Urban Construction Design & Development Group Co., Limited (《北京城建設計發展集團股份有限公司安全生產教育和培訓制度》)
Catalog of Work Safety Operation Procedures of Beijing Urban Construction Design & Development Group Co., Limited (《北京城建設計發展集團股份有限公司安全操作規程目錄》)
Work Safety Capital Guarantee System of Beijing Urban Construction Design & Development Group Co., Limited (《北京城建設計發展集團股份有限公司安全生產資金保障制度》)
Measures of Beijing Urban Construction Design & Development Group Co., Limited on Work Safety Incident Reporting, Investigation and Disposition (《北京城建設計發展集團股份有限公司生產安全事故報告和調查處理辦法》)
Measures of Beijing Urban Construction Design & Development Group Co., Limited on Major Risk Source Control (《北京城建設計發展集團股份有限公司重大危險源控制措施》)
Work Safety Inspection Mechanism of Beijing Urban Construction Design & Development Group Co., Limited (《北京城建設計發展集團股份有限公司安全生產檢查制度》)
Measures of Beijing Urban Construction Design & Development Group Co., Limited on Reward and Punishment for Work Safety and Green Construction (《北京城建設計發展集團股份有限公司安全生產和綠色施工獎懲辦法》)
Measures of Beijing Urban Construction Design & Development Group Co., Limited on Prevention and Control of Occupational Diseases (《北京城建設計發展集團股份有限公司職業病危害防治措施》)

In December 2018, the Group amended the *Work Safety Inspection Mechanism of Beijing Urban Construction Design & Development Group Co., Limited*, which improved the work safety system of the Group and provided that work safety inspection of the Group should implement the following hierarchical accountability system. In accordance with the *Measures of Beijing Urban Construction Design & Development Group Co., Limited on Reward and Punishment for Work Safety and Green Construction*, the Group announced financial rewards and punishments to company- and project-level management members and relevant personnel based on the work safety management performance of all subsidiaries and projects.

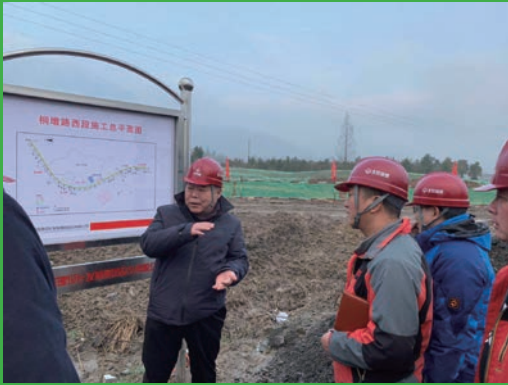


**Figure: Hierarchical Accountability System of Work Safety Inspection**

## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

### Supervision of Work Safety Joint Inspection Group in 2018

During the Reporting Period, in addition to the existing joint inspection group, the Group called some safety management personnel from Rail Company, Exploration & Surveying Institute and all Beijing-based projects together to set up three joint inspection groups. All joint inspection groups conducted safety inspections at Beijing-based projects, and launched cross checks among each other. The Safety Engineering Department of Group held work meetings every month to summarize and analyze the inspection records.



Picture: The joint inspection group was checking work safety at the project site

## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

### 5.1.2 Training and Emergency Drill

In 2018, the Group has complied with the requirements about emergency plan and potential risk identification of construction entities as stipulated in the *Fire Control Law of the People's Republic of China and Emergency Response Law of the People's Republic of China*, and put the *Work Safety Emergency Response Plan of Beijing Urban Construction Design & Development Group Co., Limited* (《北京城建設發展集團股份有限公司生產安全事故應急救援預案》) into practice. In the meantime, we held emergency drills on a regular basis and vigorously promoted safety education and training.

During the Reporting Period, the Group offered various work safety training courses, and organized chiefs of subsidiaries, projects and designated work safety management personnel to attend trainings about safety information procedures. In accordance with the *Measures on Administration of Experiential Work Safety Training and Education for Practitioners of Building Construction Projects in Beijing (Trial)* (《北京市建築施工項目從業人員體驗式安全培訓教育管理辦法(試行)》), we brought in virtual reality (VR) technology to build an experiential education zone and enhance the experience of trainees, thereby improving their work safety awareness. In December 2018, the Group held the 2018 Safety Management Business Competition, through which, subsidiaries learned from each other and promoted communication among business personnel.

### Case: 2018 “Work Safety Month” Promotion and Training

The Group launched the “Work Safety Month” Promotion and Training in June 2018. During the campaign, we strengthened work safety promotion and training by delivering promotion brochures, organizing meeting and video study, conducting potential safety risk identification on construction sites and arranging emergency drills.



Picture: Kunming Metro Line 4 was holding “Work Safety Quiz Bowl”



Picture: Staff were watching “Film of Safety Warning and Education”

## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

### Case: 2018 Emergency Drills

In May 2018, the Group organized flood control and emergency drills and simulated emergencies on construction sites during extreme rainfalls, so as to test the rigorously, pertinence and operability of emergency plans of the Group and improve the responsiveness of emergency group.



During the 2018 "Work Safety Month" campaign, Exploration & Surveying Institute organized emergency drills for limited space accidents





## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

Rail Company organized flood control and fire drills in 2018



### 5.1.3 Occupational Health and Safety

The *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases* stipulates that employers should establish and improve the accountability system on prevention and control of occupational diseases, enhance the management in this regard, and improve the level of prevention and control of occupational diseases. In 2018, the Group has complied with relevant requirements set by the *Labor Law of the People's Republic of China* and the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, established control procedures for occupational health and safety within the QHSE System, and implemented the *Measures of Beijing Urban Construction Design & Development Group Co., Limited on Prevention and Control of Occupational Diseases*.



## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

We equipped workplace and construction site with occupational health instruments and operation protection articles, and reviewed the prevention and control of occupational diseases once a quarter according to the *Measures of Beijing Urban Construction Design & Development Group Co., Limited on Prevention and Control of Occupational Diseases*. For projects in which the Group acted as the general contractor, we required project managers to conduct random inspection on prevention and control of occupational diseases once a month; for projects in which the Group acted as the subcontractor, we required project managers to conduct one inspection in every ten days. In addition, we conducted random inspections of workplace environment and checked whether operating personnel have worn protection articles in an appropriate way. In 2018, we arranged health checks for staff, and engaged TCM doctors to give volunteer medical consultation to staff, reminding them to prevent occupational diseases and to keep a good living habit.

### TCM Volunteer Medical Consultation to Beijing Metro Line 17

In September 2018, TCM doctors were invited to give volunteer medical consultation to staff of the project department at Beijing Metro Line 17 Section 19. A physiotherapy and massage lounge was set up at the site; with their expertise and experience, doctors and nurses taught staff how to prevent common occupational diseases including cervical spondylopathy, lumbar spondylosis and knee injuries.



During the Reporting Period, the Group recorded no work-related injury or death.

## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

### 5.2 Technological Innovation

#### 5.2.1 Innovative Technology Management

In light of the complexity of urban rail transit project design, we focus on the cultivation of independent technology development capability, and regard technological innovation as the core competitiveness of the Group. We have developed a series of proprietary technologies in design of urban rail transit and transport related projects, which cover rail shock absorption and noise reduction, ventilation of underground space, underground structure and viaducts. Many of these technologies are leading ones in the international market.

Rail shock absorption and noise reduction	Ventilation of underground space
We have several technologies in steel spring floating slab shock-absorbing track bed, rail damper, vibration damping fasteners and the other shock absorption and noise reduction technologies, which are widely used in the area of rail transit and improve the efficiency, safety, energy-saving and environmental protection of rail transit. Meanwhile, we also make profits by selling related products processing blueprints.	We have a number of proprietary technologies in the field of underground ventilation and air-conditioning. Our technologies generally operate compatibly with the ventilation systems in underground space, which has a prominent advantage in space utilization, energy conservation and carbon emissions reduction. Our related technologies cover areas such as multi-function integrated ventilation and air-conditioning system, direct evaporative ventilating and air-conditioning system, and cold-water integrated air and ventilation system without a cooling tower.
Underground structure	Overpass
We have a number of leading proprietary technologies relating to underground structure, which fills the blank in the field of related technologies domestically. Such technologies include the top-down bored excavation with cast-in-site arch construction method, the method for controlling deformation when under-crossing existing metro without clearance, constructing subway stations by the shield tunneling construction method combined with the shallow subsurface excavation method and the other construction methods. One of our research and development results, the “prefabricated subway station” technology, is an original domestic invention.	In China, we are the only design company with its own invention patent of U-beams technology, which is principally applicable to viaduct structures for urban rail transit requiring both a high degree of operational safety and landscape design. We conduct comprehensive research on U-beams technology and its ancillary system technology, such as rail transit power supply, environmental protection system, shock absorption and noise reduction system, and safety protection system. The U-beams we have developed are environmental friendly and economical, highly applicable to rail transit systems in China. Some parts of our U-beams technologies have achieved internationally advanced standards.

**Figure: Fields of Proprietary Technologies**



## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

The Group established a technology management system comprising the chief engineering, the Technology and Quality Department, subsidiaries and technical personnel at all levels of the project department, actively promoted technological innovation, and continuously improved the technology level of design, surveying and construction and the project quality. The Group developed and implemented the *Rules on Technological innovation Management* (《科技創新管理規定》) and other regulations to ensure the compliance and effectiveness of technologically innovative products and techniques. In the meantime, the Group attached great importance to protecting and safeguarding intellectual property. In addition to the knowledge management procedure document in the QHSE System, the Group implemented a series of rules including the *Patent Management Measures* (《專利管理辦法》) and the *Measures on Management of Intellectual Property Incentives (Trial)* (《自主知識產權獎勵管理辦法(試行)》), setting detailed provisions for patent management and software copyright management and safeguarding the legitimate interest of the State, the Group and individuals.



## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

### 5.2.2 Promotion of Industry Exchanges

Backed by the management and regulation system of innovative technologies, we promoted the application of innovation achievements. While strengthening our capabilities in research and innovation, we actively promoted the academic exchange between the Group and other companies in the same industry, professional research entities.

### 2018 Annual Meeting of Design Consulting Committee, China Association of Metros and “Smart Metro” Technology Forum

The Annual Meeting of Design Consulting Committee, the China Association of Metros and “Smart Metro” Technology Forum was held by the Group in Beijing in September 2018. About 200 leaders, experts and technicians of the rail transit field came from other cities to attend the meeting. Chief engineers and assistant chief engineers of the Group and the executive vice president of Beijing Urban Construction Smart Engineering Institute of Exploration & Surveying Institute delivered speeches on subjects covering key technical aspects and application exploration.



## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

### 5.3 Superb Quality

#### 5.3.1 Project Quality

The quality control tenet of the Group is “Scientific Management, Superb Quality, Continuous Improvement, and Customer Satisfaction”. With the quality inspection and improvement procedure, the procedure for management of construction project planning, the operation and management procedure of construction projects, the project management procedure and the legal and regulatory compliance evaluation procedure under the QHSE System, the Group established a complete management chain incorporating planning, operation, management and supervision. During the Reporting Period, we set systematic review procedures in engineering design, engineering consulting and construction segments to review and evaluate the quality, ensure that all businesses and products of the Group have complied with the *Construction Law of the People's Republic of China*, the *Metrology Law of the People's Republic of China*, the *Measures for the Administration of Quality Testing of Construction Projects* and other industry-related laws, regulations and policies, and provide our clients with high-quality products.

Engineering design, engineering consulting segments	Construction segment
<ul style="list-style-type: none"> <li>Rules on Management of Random Quality Inspections to Design Projects (《設計項目質量抽查管理規定》)</li> <li>Rules on Management of Punishment Regarding Technical Quality of Design (《設計技術質量處罰管理規定》)</li> </ul>	<ul style="list-style-type: none"> <li>Rules on Management of Inspections to Technical Quality of Construction (《施工技術質量檢查管理規定》)</li> <li>Rules on Management of Punishment Regarding Technical Quality of Construction (《施工技術質量處罰管理規定》)</li> </ul>

**Figure: Rules Related to Quality Supervision and Improvement**

Major quality inspection measures of engineering design and engineering consulting segments included random quality inspections of drawings of design projects and tour inspections of design projects on irregular basis, professional technical quality analysis report, external auditor's opinion and statistical analysis, and regular design quality meetings. For every issues identified in the course of quality supervision, we performed work in accordance with the *Rules on Management of Punishment Regarding Technical Quality of Design*. Quality supervision of construction segment included project inspections, quality meetings and statistical analysis of information submitted. For every issues identified, we performed work in accordance with the *Rules on Management of Punishment Regarding Technical Quality of Construction*.



## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

Rail Company developed and implemented the *Measures of Beijing Urban Rail Transit Construction Engineering Co., Ltd. on Quality Management* (《北京城建轨道交通建设工程有限公司質量管理辦法》), the *Rules of Beijing Urban Rail Transit Construction Engineering Co., Ltd. on Management of Project Quality Control and Improvement* (《北京城建轨道交通建设工程有限公司項目質量控制與創優管理規定》) and the *Rules of Beijing Urban Rail Transit Construction Engineering Co., Ltd. on Management of Reward and Punishment in Respect of Quality* (《北京城建轨道交通建设工程有限公司質量獎罰管理辦法》). The policies stated above set detailed requirements on quality management at the construction preparation stage, quality control at the construction stage and the completion stage, quality control for professional sub-contracting projects and project quality improvement.

Regarded as “Oscar of China’s Construction Industry”, the China Construction Engineering Luban Prize is the highest honor for construction engineering quality and represents the best construction quality in China. PPP Project of Outer Ring North Road of Anqing City was awarded China Construction Industry Association Luban Prize 2018–2019.



Picture: Outer Ring North Road of Anqing City

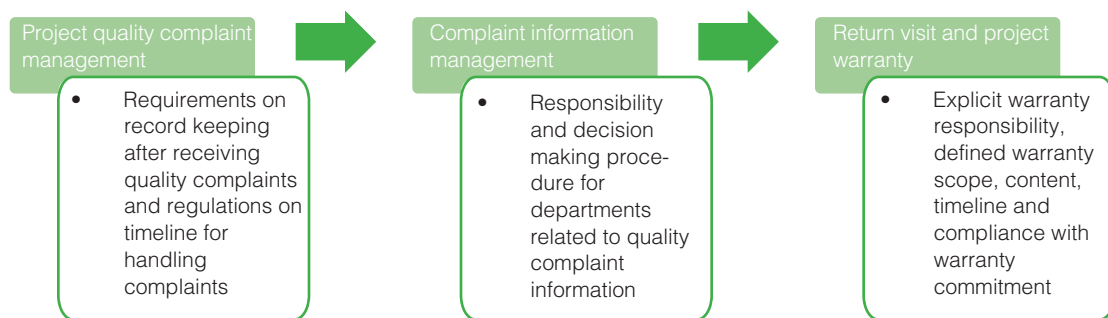
## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

During the Reporting Period, the Group recorded no quality incidents, design review rate of 100% and design consulting achievement approval rate of 100%. On top of that, the Group has strictly complied with the *Advertising Law of the People's Republic of China*, the *Trademark Law of the People's Republic of China* and relevant laws and regulations. In the ordinary course of business, the Group maintained self-constraint, conducted stringent control on advertising and labeling matters related to design, consultancy and contracting businesses, so as to prevent misleading the public and clients.

### 5.3.2 Service Quality

Getting informed of clients' satisfaction about products and services we have offered and taking results of satisfaction survey as a part of review of group management help improve our project management and service capabilities. The Group set out the *Rules on Customer Satisfaction Survey and Application* (《顧客滿意度調查及應用規定》) and the *Rules on Project Warranty Management* (《工程保修管理規定》) in the QHSE System, and required responsible departments to collect owners' comments and opinions through various channels. In addition, the Group organized return visits to owners of typical projects and collected owners' comments and opinions more effectively through face-to-face communication.

During the Reporting Period, the Group recorded no complaint from clients. In respect of handling procedure for project quality complaints, Rail Company developed sections about quality complaints, return visit and project warranty in the *Measures of Beijing Urban Rail Transit Construction Engineering Co., Ltd. on Quality Management*, setting detailed regulations on complaint handling procedures.



**Figure: Management of Quality Complaint and Return Visit of Rail Company**

## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

Furthermore, it is important to protect the information security of suppliers, partners, clients and the Group. To protect the intellectual property of the Group and to prevent disclosure of clients' privacy, the Group engaged qualified third parties to shred and dispose waste drawings regularly.

### 5.4 Win-Win Cooperation

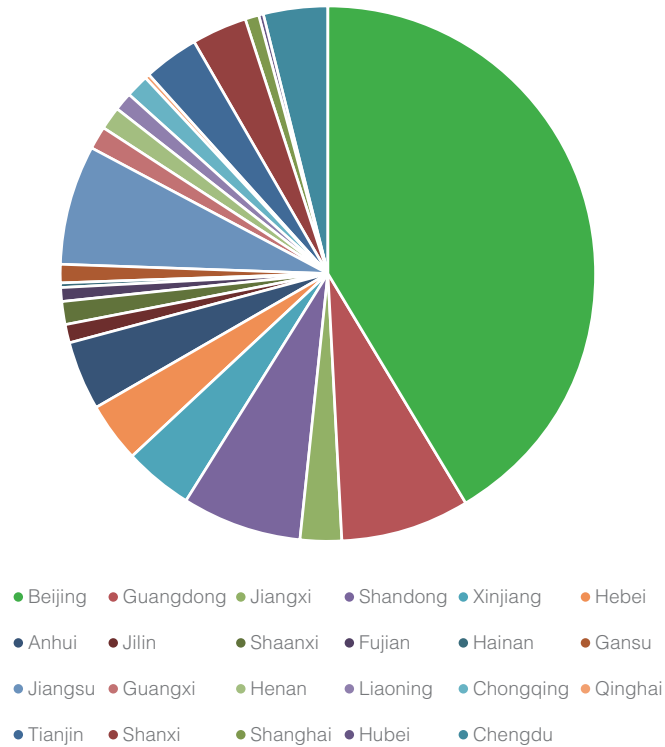
Material and service providers of the Group is a key factor for us to provide safe, high-quality and integrated construction services. As such, we attached great importance to the supply chain environment and the management of social risk in the ordinary course of business operation. Based on the risk management procedure, the management procedure for contract review, the project management procedure and the procedure for planning of construction project management under the QHSE System, we developed policies including *Rules on the Tendering Management for Construction Projects of the Company* (《公司施工項目招標管理規定》) and the *Rules on Subcontracting Management for Professional Projects of the Company* (《公司專業工程分包管理規定》). All of the policies above contained regulations on selection and engagement of suppliers, training of subcontractors before they commence construction, control procedures during the construction of subcontractors and evaluation and review of work conducted by subcontractors. In the control of work safety management of subcontractors, we followed the Group's work safety management and supervision system. In June 2018, we announced and implemented the *Measures of Beijing Urban Construction Design & Development Group Co., Limited on Management of Green Construction* (《北京城建設計發展集團股份有限公司工程綠色施工管理規定》) to control environmental risks in our construction and in the construction of subcontractors.

During the Reporting Period, supplier management policies of the Group were duly executed. For instance, in the course of tendering, Exploration & Surveying Institute set it an indicator that participants shall provide certificates to prove that they have established quality and environmental management systems. Following the systematic selection and assessment conditions and taking account of project quality, environmental protection, occupational health and safety, Rail Company prepared the *List of Qualified Suppliers for Construction Hoisting Machinery (2018)* (《建築起重機械合格供應商名錄(2018年度)》) and the *List of Suppliers for Construction Materials (2018)* (《工程物資供應商名錄(2018年度)》), to serve as reference for projects to select suppliers.



## 5 INGENUITY: AIMING FOR EXCELLENCE AND BUILDING THE FUTURE (CONTINUED)

Region	Suppliers
Beijing	111
Guangdong	21
Jiangxi	7
Shandong	19
Xinjiang	11
Hebei	10
Anhui	11
Jilin	3
Shaanxi	4
Fujian	2
Hainan	1
Gansu	3
Jiangsu	19
Guangxi	4
Henan	4
Liaoning	3
Chongqing	3
Qinghai	1
Tianjin	9
Shanxi	9
Shanghai	2
Hubei	1
Chengdu	10



**Figure: Number of Suppliers of Exploration & Surveying Institute by Region**

On top of that, the Group developed and implemented the *Design and Consultancy Project Marketing Management Measures* (《設計、諮詢項目市場營銷管理辦法》) to standardize the tendering process of the Group. The *Design and Consultancy Project Marketing Management Measures* set out detailed regulations on marketing departments and division of functions, marketing expense management, tendering procedures, contract management and reward and punishment in respect of marketing. By executing the policies above and performing centralized decision making and management on tendering process, we prevented any anti-competitive practices and ensured that all tendering activities have complied with the *Bidding Law of the People's Republic of China*, the *Regulation of Beijing Municipality on Bid Invitations and Tenders for Bid* and other national and local laws and regulations.

## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH

The Group has always been devoted to growing together with its staff. With an effective talent management system, we attract outstanding talents, protect staff's interest, and care about their needs and growth. Building a development platform and a sound remuneration and benefit system for staff, we help staff improve their professionalism and competence, create a greater room for staff to give full play to their talent, enhance the sense of belonging, and offer staff a healthy, safe, open, fair working environment that is conducive to shared growth.

This section focuses on the following material issues about which stakeholders were concerned

Policy of staff benefits	Construction and management of talent pool	Staff training and career development	Protection of staff's interest
--------------------------	--	---------------------------------------	--------------------------------

### 6.1 Scientific Talent Management

#### 6.1.1 Talent Recruitment

In terms of talent recruitment and management, the Group has strictly complied with the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, the *Regulation on the Implementation of the Employment Contract Law of the People's Republic of China* and other relevant laws and regulations during the Reporting Period. On the basis of compliance with laws and regulations, the Group developed the *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》) and the *Management Rules on Labor Contract and Agreement* (《勞動合同及協議管理辦法》) to perform standardized management of recruitment process. In the policies above, we set the recruitment principles as open recruitment, selection on basis of merit, preference of internal recruitment over external recruitment and employment on basis of demand, and strove for a standardized and transparent talent recruitment system. In the meantime, we set clear provisions in the policies above that equal job opportunities should be given to people of different ages and genders, from different nations and religions or with physical disabilities, thus ensuring the fairness of the recruitment system.



## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH (CONTINUED)

The recruitment management measures of the Group also explicitly prohibit employment of child labor and forced labor. We execute strict standards from the first stage of recruitment, and require candidates to provide valid identity documents to avoid selection of those under sixteen. We also conduct reference check and verification to candidates, and those who provide false information will not be employed. In the meantime, the Group enters into labor contracts with employees on the rule of equality and free will and by consensus and holds a firm stance in prohibiting any form of forced labor. 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.

As at 31 December 2018, UCD, Exploration & Surveying Institute and Rail Company had a total of 3,479 employees. The breakdown of total employees by gender, region, age group and employment type is listed below:

		Number of Employee	Employee Turnover Rate (%)
Gender	Male	2,458	6
	Female	1,021	7
Age group	Below 30	897	6
	30–50	2,340	6
	Over 50	242	10
Employment type	Senior management	131	–
	Middle management	410	–
	Staff	2,938	–
Region	Beijing	2,414	6
	Other regions	1,065	8





## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH (CONTINUED)

### 6.1.2 Staff Management

In respect of staff management, we also established a set of efficient and scientific management system. Based on strict compliance with relevant laws and regulations, including 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》), the *Group and Rail Company have issued the Rules on Remuneration Management and Accounting Management* (《薪酬管理和核算管理辦法》) and the *Remuneration Management System of Beijing Urban Rail Transit Construction Engineering Co., Ltd.* (《北京城建軌道交通建設工程有限公司薪酬管理制度》), respectively, which explained the matters related to salaries, bonuses, benefits and social insurance and relevant accounting methods, and established the internal remuneration and benefit management system. We also issued the *Rules on Management of Work Attendance, Leave and Holidays* (《員工考勤與休假管理辦法》) to standardize the management of working hours, attendance, leave and holidays and make sure that the basic interest of employees in their spare time is protected. For example, the Group, based on compliance with relevant laws, also provided additional holidays to employees, such as the home leave of 20 to 30 days that was provided to employees who are away from their families, to allow them to get together with their parents and families. We also kept improving and updating the staff management system of the Group to improve employee's happiness in work and bring together outstanding talents.

#### Employee welfare activities

We always adhere to the principle of “serving enterprises and serving employees” and striving for welfare for employees. During the Reporting Period, we joined hands with the labor union and Party Committee of the Group for many times to organize various welfare activities for all employees, hence improving employee satisfaction in work.



## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH (CONTINUED)

Subsidiaries of UCD selected athletes and organized regular exercises, and also held a number of sports events, such as table tennis, badminton, swimming, "Three-Man" basketball, and group rope skipping.



The Group organized "Summer Heat Relief" activities on construction sites and sent 2,225 kilograms of mung beans and 357 kilograms of white sugar to 10 construction projects in Beijing and supplies for releasing summer heat with a value of approximately RMB50,000 to 7 construction projects in other cities.



## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH (CONTINUED)

The Group specially set up baby care rooms at workplace to provide convenience for breastfeeding employees.



In order to further encourage excellent employees who have made outstanding contributions to the development of the Group and standardize the promotion process, the Group also formulated the *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 standardize the promotion mechanism and the position and rank management. Each system provided details about the system of positions and ranks, related adjustments, and talent management and incentives.

When labor contracts were terminated, we executed corresponding separation procedures in strict accordance with relevant laws and regulations and the *Management Rules on Labor Contract and Agreement* (《勞動合同及協議管理辦法》) and other policies, so as to protect the rights and interests of related parties.

## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH (CONTINUED)

### 6.2 Strengthening of Staff Training

In order to further improve employee's professionalism and competence, we prepared various kinds of training programs for employees, and developed the *Administrative Measures for Training* (《培训管理办法》). According to training requirements, we organized two types of training involving different training contents and different trainees: company training and professional training. We also established a corporate university to satisfy the increasing employee training demands with the business development of the Group. In accordance with the HR staff training and staff assessment management procedure set out in the QHSE System, we also defined and standardized the whole process of staff vocational training as follows:



During the Reporting Period, in light of the Group's strategy and the needs of business expansion and performance improvement, we organized training in respect of advanced development in the industry, technology highlights, scientific research innovation, project management, function management, business exchange, professional basis, application of building information model (BIM), and virtual corporate business practice. During the Reporting Period, the Group planned to organize 1,230 sessions of training, and actually organized 1,395 sessions of training, holding 5.5 sessions per day on average, with a completion rate of 113%, representing a YoY increase of 7.7%, as compared with that in 2017.

Training Performance of Exploration & Surveying Institute and Rail Company in 2018

	Gender		Type of employees		
	Male	Female	Senior management	Middle management	Staff
Number of trainees	835	221	24	315	717
Average training hours	16.04	14.56	35.00	35.40	14.08

## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH (CONTINUED)

In order to further improve training standard, we continued to promote university-enterprise cooperation. During the Reporting Period, under the operation and development concept of talents as the core competitive capital, we further promoted university-enterprise cooperation with key and first-class universities in China in respect of talent development, training and exchange and enterprise-university-research institute cooperation, to jointly drive and lead technological advance and talent development in the industry. The Group has entered into university-enterprise cooperation agreement with Tsinghua University, Southeast University, Tianjin University, Tongji University and Southwest Jiaotong University, respectively, and established university-enterprise postgraduate internship and practice bases.

On the other hand, we fully utilized the internal resources of the Group, established and developed internal trainer team, improved the quality and enthusiasm for teaching of internal trainer team as a whole. We set out clear requirements on the attitude and concept, professional title and qualification, knowledge and experience and capabilities and skills of internal trainers by formulating and publishing the *Measures for Administration of Internal Trainers*. The Group also organized and completed the selection, recommendation and team construction of internal trainers of all units based on such requirements, promoted vocational training of the Group, kept improving the professionalism and competence of employees, and enabled employees to make progress together with the Group.

### 6.3 Promotion of Integrity Construction

Maintaining a clean work team is an essential part of the Group's social responsibility performance. During the Reporting Period, the Group has strictly complied with relevant laws and regulations, including the *Criminal Law of the People's Republic of China* 《中華人民共和國刑法》, the *Supervision Law of the People's Republic of China* (《中華人民共和國監察法》), 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》. We also developed documents on implementing the construction of clean administration and anti-corruption, including 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》 in light of our actual conditions, with an aim to determinedly resist all actions involving corruption, blackmail, fraud and money laundering.

During the Reporting Period, in order to thoroughly implement the spirit of the 19th CPC National Congress and fully strengthen the construction of the Party conduct and clean administration in the Group, we developed and implemented the work plan for accountability inspection and assessment for construction of Party conduct and clean administration. Stringent inspection and assessment were conducted on the construction of Party conduct and clean administration, education of combating corruption and building a clean system through self-inspection and self-assessment and on-site inspection.



## 6 STRUGGLE: TAKING STRUGGLING WITH EFFORTS AS THE GUIDELINE AND PROMOTING SHARED GROWTH (CONTINUED)

### Prevention and Reporting Measures

We actively organized employees to participate in anti-corruption warning and education activities and developed relevant reporting measures to strengthen prevention of violations of disciplines and laws.

During the Reporting Period, the Group organized employees to attend the “Warning and Education Exhibition of Typical Violation Cases in Engineering Construction”.



Rail Company set up a Suggestion Box for collecting reporting information.



During the Reporting Period, the Group received no cases in relation to corruption, blackmail, and fraud and money laundering.



## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT

Potential environmental impact mainly caused by the production and operation business of the Group included emission of air pollutants by business vehicles and engineering machinery owned and leased by the Group, energy and water resource consumption on construction sites and emission of greenhouse gas by purchased electric power. In 2018, the Group took proactive energy conservation and emission reduction actions and made great efforts in environmental considerations of design projects, green management of construction projects, and further maintaining the record and management of internal environmental performance data, hence reducing the impact on environment and natural resources in operations of the Group.

This section focuses on the following material issues about which stakeholders were concerned

Green office policy management	Management of energy utilization	Management of water resource utilization
--------------------------------	----------------------------------	--

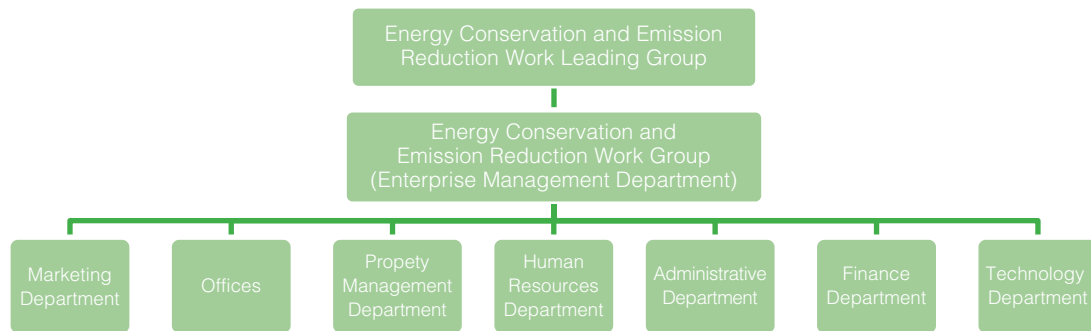
### 7.1 Resource Management

#### 7.1.1 Energy Management

We attached great importance to effective energy and water resource management, so as to reduce natural resource consumption while reducing operating costs. The *Energy Conservation Law of the People's Republic of China* provided that the building, design, construction and supervising unit of construction engineering shall abide by construction energy conservation standards. During the Reporting Period, the Group has abided by the *Energy Conservation Law of the People's Republic of China* and also followed national and local standards in engineering design and consultancy, surveying and construction businesses. The Group developed and updated the *Objectives and Plan for the Management of Energy for the Year 2018* (《2018年能源管理工作目標及方案》), and continued to operate three-tier energy management network led by the General Manager of the Group. Under the network, Energy Conservation and Emission Reduction Work Group participated in reviewing the design of reconstruction, expansion and new construction of the Company, ensured that clear and accurate energy conservation evaluation was incorporated in engineering design and reasonable energy conservation technology, equipment and materials were utilized in an appropriate way, and assisted management departments in supervising engineering completion acceptance and effect verification.



## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)



**Figure: Energy Management Network of the Group**

During the Reporting Period, based on the energy management network, the Group also implemented corresponding resource conservation management policies, and developed the *Measures for Management of Energy and Resource Conservation of the Headquarters* and the *Measures for Management of Energy and Resource Conservation of Branches*, hence supporting the implementation of the *Objectives and Plan for the Management of Energy for the Year 2018*. Through executing above energy and resource management policies, the Group also reduced the emission of greenhouse gas from purchased energy generation (such as electric power) utilized in production, so as to make contributions to mitigating climate change.



## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

### Tramcar in Wuhan Optics Valley officially opened for trial operation

On 1 April 2018, the Tramcar Line T2 in Wuhan East Lake National Independent Innovation Demonstration Zone designed by the Group was officially opened for trial operation. As the first tramcar applying energy-type super capacitor power supply technology at home, Tramcar in Optics Valley pioneered in "no catenary wire along the whole line and charging not required at each station". Energy recovery will be conducted automatically during driving on downhill and braking sections, for the purpose of energy conservation.



#### 7.1.2 Water Resource Management

Realizing the preciousness and importance of water resources, the Group, in accordance with the *Objectives and Plan for the Management of Energy for the Year 2018*, strengthened inspection, maintenance and improvement of water pipeline and supply equipment both in office space and on construction sites. Relevant personnel needed to patrol, inspect and replace aged water pipeline and equipment regularly every week, to ensure effective operation of water pipeline and supply equipment. During the Reporting Period, the Group obtained water for office and construction use from municipal pipe network and had no difficulty in seeking suitable water resources.

## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

### Beijing Subway Line 7 Construction Project realized groundwater reutilization

During the construction of foundation pit excavation of No.03 Tender for East-Extended Section of Beijing Subway Line 7, groundwater in the foundation pit was required to be extracted and discharged through a dewatering well. In order to ensure effective groundwater reutilization, we designed a groundwater recovery system and installed necessary facilities to reutilize groundwater for road washing, dust suppression, bolting and shotcreting construction, dump truck washing and structure maintenance.



Picture: Variable frequency booster pump on construction site

## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

### 7.2 Emission Management

#### 7.2.1 Management Policy

On the premise of effective management of resource utilization, we tried to further reduce potential environmental pollution and ecological disruption during office work and construction. During the Reporting Period, the Company has complied with relevant laws and regulations, including the *Environmental Protection Law of the People's Republic of China* (《中華人民共和國環境保護法》), 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 *Law of the People's Republic of China on the Prevention and Control of Ambient Noise Pollution* (《中華人民共和國環境噪聲污染防治法》), the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste* (《中華人民共和國固體廢棄物污染環境防治法》), the *Water Pollution Prevention and Control Law of the People's Republic of China* (《中華人民共和國水污染防治法》) and the *Regulations on Environmental Management of Construction Project* (《建設項目環境保護管理條例》). UCD developed and implemented the *Environmental Management Plan* (《環境管理方案》). Exploration & Surveying Institute and Rail Company developed systematic management policies in respect of office and construction in light of their respective business characteristics.

#### Main environmental management policies of Exploration & Surveying Institute

- Identification, Evaluation and Control Procedures of Environmental Factors and Hazardous Sources
- Sewage Discharge Control Procedures
- On-site Green Operation Management Procedures

#### Main environmental management policies of Rail Company

- Measures for Energy Saving and Emission Reduction in the Office Area
- Environmental Protection Management Plan
- Green Construction Management Plan

The *Green Construction Management Plan* developed and implemented by Rail Company expressly specified the education and training system in relation to green construction and provided that the *Green Construction Management Agreement* shall be entered into with all subcontractors. The *On-site Green Operation Management Procedures* developed and implemented by Exploration & Surveying Institute provided that green construction inspection should be organized on construction site of each project semi-monthly.

#### 7.2.2 Control Measures

Supported by emission management policies, we developed detailed specifications for specific measures for dust pollution control, hazardous gas emission control, water pollution control, noise pollution control, light pollution control, land conservation, construction waste and domestic waste control on construction sites.





## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

**Some measures for controlling various types of pollution set out in the *Environmental Protection Management Plan* of Rail Company:**

### Dust and Air Pollution Control Measures

- Take water spraying and sprinkling measures in construction of earth excavation, backfilling, transportation, unloading, foundation treatment, etc., to maintain a certain moisture content on the surface of earth, so as to prevent dust.
- Limit the speed of various types of vehicles entering and exiting construction sites, to prevent dust generated by vehicles due to speeding.
- Take dust prevention measures, including surface solidifying or cover cloth, to sand, soil and other dust, fine granular materials, and earth and waste on construction sites.

### Noise and Vibration Control Measures

- Use low-noise and low-vibration devices and take sound and vibration isolation measures to avoid or mitigate construction noise and vibration.
- Forbid honking of vehicles transporting materials and solid waste on construction sites.
- Strengthen long-term monitoring of environmental noise on construction sites, and adjust relevant factors exceeding noise standard on construction sites in a timely fashion.

### Water Pollution Control Measures

- Set corresponding treatment facilities for different types of sewage, such as settling basin, oil separation tank and septic tank; sewage must be treated in accordance with relevant requirements before discharging into designated sewage pipeline.
- Set special paint and oil warehouse on construction sites and install waterproof layer on warehouse floor to prevent oil contamination of water.
- Recover toxic and hazardous waste, such as battery, ink box, oil paint and coatings, and hand over them to a qualified third party for treatment, to prevent permeating through surface soil and hence contaminating groundwater.

### Construction and Domestic Waste Control Measures

- Develop construction waste reduction plan.
- Strengthen recycling of construction waste; reutilize construction waste, such as gravels and earth work, by means of foundation back filling, road paving, etc.; recycle all rebars and steel tubes used in support system.
- Mark all wastes and implement classified management.
- Engage a qualified unit to conduct waste transportation. Appoint management personnel to supervise and implement strict monitoring over wastes, to prevent omissions. Transportation of toxic and hazardous wastes shall be executed in accordance with relevant national or local laws and regulations.
- Set closed-type garbage containers in office area and living quarters; domestic garbage shall be bagged and cleaned in a timely fashion.



## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

**Some measures for controlling environmental impact set out in the *On-site Green Operation Management Procedures* of Exploration & Surveying Institute:**

### Environmental Impact Control Measures

- Before commencement of engineering, conduct a survey on soil environment and conditions in the place where the construction site is located; develop scientific protection or restoration measures to prevent soil erosion and degradation in the process of construction.
- Cover the bare earth caused in the process of construction with gravels or plants, to prevent soil erosion and loss. Construction site shall be regreened after the completion of construction in accordance with relevant regulations.

**Some measures for vehicle management set out in the *Measures for Energy Saving and Emission Reduction in the Office Area* of Rail Company:**

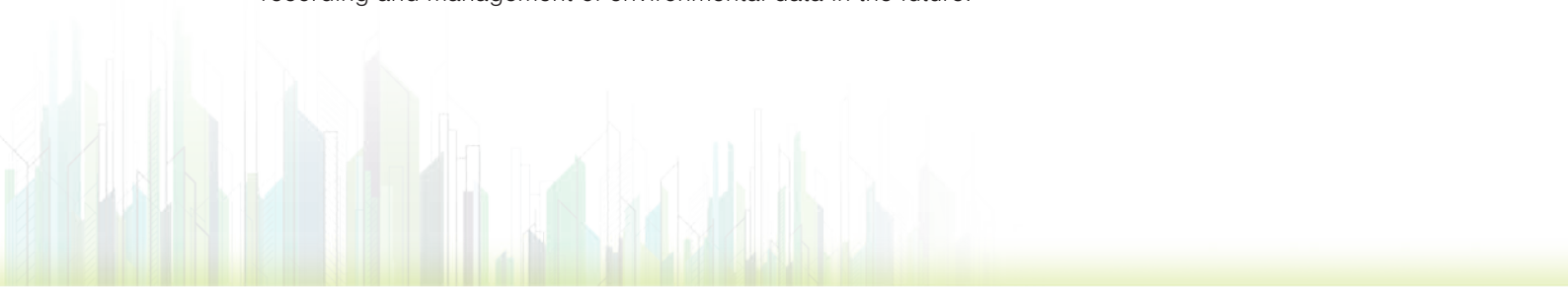
### Vehicle Management Measures

- Adopt electronic operation, such as Internet, telephone and video conferences, to reduce unnecessary travel.
- Arrange bus for group business activity, to reduce air pollution.
- Keep improving driver's driving skills and enhance maintenance of vehicles.

### 7.3 Environmental Performance

In 2017, we collected resource usage data of 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 (hereinafter referred to as the "2017 Scope"); in 2018, we collected resource usage data of the headquarters of UCD and its 40 branches, the headquarters of Rail Company and its 11 projects, and the headquarters of Exploration & Surveying Institute and its 10 branches (hereinafter referred to as the "2018 Scope").

For a number of reasons, including changes in projects, expanded scope of statistics and enhanced effects of implementation of collection system (statistics of leased equipment and vehicles were incorporated in 2018), significant increases were observed in certain emission data and resource utilization data. In addition, as water consumption, air conditioner refrigerant, hazardous and nonhazardous waste of certain sub-institutes and projects were managed by the property management companies in places where such sub-institutes and projects were located, collection scope of certain data of water consumption, greenhouse gas, hazardous and nonhazardous waste was smaller than the 2018 Scope, and we will continue to steadily promote the recording and management of environmental data in the future.



## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

Indicator	Unit	Data in 2017 <sup>1</sup>	Data in 2018
<b>Total Emission of Air Pollutants<sup>2</sup></b>			
NO <sub>x</sub>	kg	9,398.13	15,069.65
SO <sub>x</sub>	kg	11.70	26.28
CO	kg	10,215.53	18,159.98
PM2.5	kg	472.62	865.63
PM10	kg	499.53	923.81
<b>Resource Consumption and Intensity<sup>3</sup></b>			
Total Electricity Consumption	10,000kWh	1,183.15	1,859.56
Electricity Consumption Intensity	kWh/person	3,044.65	5,345.09
Total Water Consumption	10,000 tonnes	64.34	32.19
Water Consumption Intensity	tonnes/person	165.57	92.53
Total Natural Gas Consumption	10,000 m <sup>3</sup>	15.72	17.89
Natural Gas Consumption Intensity	m <sup>3</sup> /person	40.44	51.43

- 1 In order to be comparable with the data in 2018, certain adjustment was made to the scope of statistics of number of persons. Therefore, the intensity data in this table were revised data within the 2017 Scope.
- 2 Air pollutant emissions in 2017 are mainly from exhaust emissions of the vehicles owned and controlled by the Group and the engineering machinery of Exploration & Surveying Institute within the 2017 Scope. Air pollutants in 2018 are mainly from exhaust emissions of the vehicles owned and leased by the Group and engineering machinery leased by the Group within the 2018 Scope. 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制技術指南(試行)》) and the Technical Guide for Air Pollutant Emission Inventory for Non-road Mobile Sources (Trial) (《非道路移動源大氣污染物排放清單編制技術指南(試行)》) issued by the Ministry of Environmental Protection of the People's Republic of China.
- 3 In order to be comparable with the data in 2018, in calculating the total liquefied petroleum gas consumption (for staff canteen), gas consumption of the staff canteen contracted by the Group to a third party was excluded; in addition, certain adjustment was made to certain estimated liquefied petroleum gas consumption densities in 2017. Therefore, data relating to liquefied petroleum gas in 2017 in this table were revised data within the 2017 Scope.

## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

Indicator	Unit	Data in 2017 <sup>1</sup>	Data in 2018
<b>Resource Consumption and Intensity<sup>3</sup></b>			
Total Liquefied Petroleum Gas Consumption	10,000 m <sup>3</sup> gas	5.02	1.13
Liquefied Petroleum Gas Consumption Intensity	m <sup>3</sup> gas/person	12.92	3.25
Diesel Consumption (Vehicles and Engineering Machinery)	liter	35,643	706,827.40
Diesel Consumption Intensity (Vehicles and Engineering Machinery)	liter/person	9.17	203.17
Gasoline Consumption	liter	266,112.50	613,068.66
Gasoline Consumption Intensity	liter/person	68.48	176.23
Total Liquefied Petroleum Gas Consumption (Vehicle)	liter	–	35,670.25
Liquefied Petroleum Gas Consumption Intensity (Vehicle)	liter/person	–	10.25
Total Liquefied Natural Gas Consumption (Vehicle)	liter	–	4,669.14
Liquefied Natural Gas Consumption Intensity (Vehicle)	liter/person	–	1.34
Total Ethanol Gasoline Consumption (Vehicle)	liter	–	97,670.5
Ethanol Gasoline Consumption Intensity (Vehicle)	liter/person	–	28.07
Total Office Paper Consumption	tonnes	61.23	67.15
Office Paper Consumption Intensity	kg/person	15.76	19.30



## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

Indicator	Unit	Data in 2017 <sup>1</sup>	Data in 2018
<b>Greenhouse Gas Emissions and Intensity<sup>4</sup></b>			
Emissions of Scope 1 Greenhouse Gas (CO <sub>2</sub> equivalents) <sup>5</sup>	tonnes	2,126.01	4,083.90 <sup>6</sup>
Emissions of Scope 2 Greenhouse Gas (CO <sub>2</sub> ) <sup>7</sup>	tonnes	9,314.48	14,534.95
Total Greenhouse Gas Emissions (CO <sub>2</sub> equivalents) <sup>5</sup>	tonnes	11,440.49	18,618.84
Greenhouse Gas Emission Intensity (CO <sub>2</sub> equivalents) <sup>5</sup>	tonnes/person	2.94	5.35

4 Due to revision of total liquefied petroleum gas consumption (please refer to Note 3), the greenhouse gas data in this table were the revised data within the 2017 Scope.

5 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, and the Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions of Other Industrial Enterprises (Trial) issued by the National Development and Reform Commission of the People's Republic of China.

6 Greenhouse gas emissions herein are from exhaust emissions of vehicles owned and leased by the Group and engineering machinery leased by the Group, greenhouse gas emissions of refrigerants consumed and the greenhouse gas emissions of natural gas and liquefied petroleum gas used within the 2018 Scope.

7 Greenhouse gas emissions herein are indirect greenhouse gas emissions from the production of electric power purchased by the Group and are calculated 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 of the People's Republic of China.

## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

Indicator	Unit	Data in 2017 <sup>1</sup>	Data in 2018
<b>Total Hazardous Waste Produced and Intensity<sup>8</sup></b>			
Total Waste Batteries Produced	kg	220.11	286.42
Intensity of Waste Batteries Produced	kg/person	0.06	0.08
Waste Fluorescent Lights	pieces	640	1,847.5
Intensity of Waste Fluorescent Lights	pieces/person	0.16	0.53
Total Printer Cartridges Produced	pieces	2,292	3,493
Intensity of Printer Cartridges Produced	pieces/person	0.59	1.00
Total Waste Chemicals Produced	kg	308.7	300
Intensity of Waste Chemicals Produced	kg/person	0.08	0.09

<sup>8</sup> All hazardous wastes produced by the Group have been treated properly by qualified third parties under engagement;

## 7 INNOVATION: TAKING ENVIRONMENTAL PROTECTION AS THE RULE AND REALIZING LONG-TERM DEVELOPMENT (CONTINUED)

Indicator	Unit	Data in 2017 <sup>1</sup>	Data in 2018
Total Non-hazardous Waste Produced and Intensity			
Office Garbage Produced	tonnes	1,371.07	285.36
Office Garbage Recycled	tonnes	767.66	86.00
Household Garbage Produced	tonnes	1,931.52	522.26
Household Garbage Recycled	tonnes	751.6	287.02
Construction Waste Produced	tonnes	13,043.3	1,118.13
Construction Waste Recycled	tonnes	914	322.13
Experiment Waste Residue Produced	tonnes	817.68	833.1
Experiment Waste Residue Recycled	tonnes	41.36	831
Intensity of Non-hazardous Waste Produced	tonnes/person	4.42	0.79





## 8 RESPONSIBILITY: BEING COMMITTED TO BENEFIT SHARING AND REPAYING THE SOCIETY

The Group is committed to integrating its business with social benefits. We also create values for society while creating economic values for shareholders and investors, respond to social challenges and satisfy social demands.

### 8.1 Sharing of Achievements with Society

We have been leading and driving the development of urban rail transit industry, and led in compiling several design specifications for China urban rail transit industry. During the Reporting Period, we provided comprehensive services to several cities, including design and construction contracting of urban rail transit lines, design of civil buildings, surveying and mapping of underground railways, and construction of municipal engineering. We actively shared our development achievements with the society and make contributions to the transportation construction of cities.

#### Changchun Subway Line 8 Put into Service

Changchun Subway Line 8 Phase I was officially put into service on 30 October 2018. Line 8 is 13.3 km long with 12 stations, erecting a green channel for the connectivity of Changchun New Area and Changchun's inner city. The operation of this line has driven the economic and social development of Changchun New Area and provided convenience for residents in Changchun New Area in respect of travel, work, shopping and living.



## 8 RESPONSIBILITY: BEING COMMITTED TO BENEFIT SHARING AND REPAYING THE SOCIETY (CONTINUED)

### **Zunyi Fengxin Express Line Outer Ring Road – East Connection Line Section Put into Service**

Outer Ring Road – East Connection Line Section of Zunyi Fengxin Express Line, a Zunyi Municipal road, was put into official operation on 5 August 2018, and Fengxin Express Line officially started to serve Zunyi citizens. The opening of Fengxin Express Line significantly relieved the traffic pressure in old town. In addition, in this project, pedestrian passage was perfectly set within the steel truss, hence separating pedestrian and vehicular traffic and also saving urban land.



## 8 RESPONSIBILITY: BEING COMMITTED TO BENEFIT SHARING AND REPAYING THE SOCIETY (CONTINUED)

### 8.2 Devotion and Donation to Society

We hope to exploit our abilities to help people in need to improve their living. In addition, we actively responded to national planning on poverty alleviation, encouraged employees to extensively participate in voluntary and charity activities, so as to inspire more people to participate in community services. In accordance with the *Regulations on Voluntary Service* (Order of the State Council of the People's Republic of China No. 685) and based on the principles of voluntariness, waiver of charges, equality, integrity and legitimacy, we protected the legitimate rights and interests of volunteers, voluntary service organizations and voluntary service receivers, and encouraged and standardized various public welfare and voluntary activities.

#### “Dedication of Party Members” Activity

We actively participated in “Dedication of Party Members” activity and organized communists in the Company to make a donation. Donation will be used for helping the elderly in distress and poverty-stricken families due to illness, assisting students from poor families in finishing schooling, helping families with the disabled to install barrier-free facilities and other projects. In 2018, the Group made a total donation of more than RMB120,000.



## 8 RESPONSIBILITY: BEING COMMITTED TO BENEFIT SHARING AND REPAYING THE SOCIETY (CONTINUED)

### Poverty alleviation and greeting activity of the Group

During the Reporting Period, the Company launched several targeted poverty alleviation activities, and donated money and supplies, such as grain and oil, to poor villages.



### Exploration & Surveying Institute was awarded with the title of “Excellent Voluntary Service Organization”

During the Reporting Period, Exploration & Surveying Institute organized employees to participate in a number of community voluntary service activities, and was awarded with the title of “Excellent Voluntary Service Organization” by Street CCYL Work Committee.



## 9 INDEX TO THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE

### A. Environmental

General Disclosure and Key Performance Indicator	Description		Chapter for Disclosure
Aspect A1: Emission			
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.		7.2 Emission Management
KPI	A1.1	The types of emissions and respective emissions data.	7.3 Environmental Performance
	A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	7.3 Environmental Performance
	A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	7.3 Environmental Performance
	A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	7.3 Environmental Performance
	A1.5	Description of measures to mitigate emissions and results achieved.	7.2 Emission Management
	A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	7.2 Emission Management 7.3 Environmental Performance

## 9 INDEX TO THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

General Disclosure and Key Performance Indicator	Description		Chapter for Disclosure
Aspect A2: Use of Resources			
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.		7.1 Resource Management
KPI	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).	7.3 Environmental Performance
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	7.3 Environmental Performance
	A2.3	Description of energy use efficiency initiatives and results achieved.	7.1 Resource Management 7.3 Environmental Performance
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	7.1 Resource Management
	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	N/A
Aspect A3: The Environment and Natural Resources			
General Disclosure	Policies on minimizing the issuer’s significant impact on the environment and natural resources.		7 Innovation: Taking Environmental Protection as the Rule and Realizing Long-term Development
KPI	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	7 Innovation: Taking Environmental Protection as the Rule and Realizing Long-term Development



## 9 INDEX TO THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

### B. Social

General Disclosures and KPIs	Description		Chapter for Disclosure
Aspect B1: Employment			
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 Scientific Talent Management
KPI	B1.1	Total workforce by gender, employment type, age group and geographical region.	6.1.1 Talent Recruitment
	B1.2	Employee turnover rate by gender, age group and geographical region.	6.1.1 Talent Recruitment



## 9 INDEX TO THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

General Disclosures and KPIs	Description		Chapter for Disclosure
Aspect B2: Health and Safety			
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.		5.1 Work Safety
KPI	B2.1	Number and rate of work-related fatalities.	5.1.3 Occupational Health and Safety
	B2.2	Lost days due to work injury.	5.1.3 Occupational Health and Safety
	B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	5.1.3 Occupational Health and Safety
Aspect B3: Development and Training			
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.		6.2 Strengthening of Staff Training
KPI	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	6.2 Strengthening of Staff Training
	B3.2	The average training hours completed per employee by gender and employee category.	6.2 Strengthening of Staff Training

## 9 INDEX TO THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

General Disclosures and KPIs	Description		Chapter for Disclosure
Aspect B4: Labor Standards			
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 labor.		6.1.1 Talent Recruitment
KPI	B4.1	Description of measures to review employment practices to avoid child and forced labor.	6.1.1 Talent Recruitment
	B4.2	Description of steps taken to eliminate such practices when discovered.	6.1.1 Talent Recruitment
Aspect B5: Supply Chain Management			
General Disclosure	Policies on managing environmental and social risks of the supply chain.		5.4 Win-Win Cooperation
KPI	B5.1	Number of suppliers by geographical region.	5.4 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.	5.4 Win-Win Cooperation

## 9 INDEX TO THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

General Disclosures and KPIs	Description		Chapter for Disclosure
Aspect B6: Product Responsibility			
General Disclosure	Information on:  (a) the policies; and  (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labeling and privacy matters relating to products and services provided and methods of redress.		5.1 Work Safety 5.3 Superb Quality
KPI	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	5.3.1 Project Quality
	B6.2	Number of products and service related complaints received and how they are dealt with.	5.3.2 Service Quality
	B6.3	Description of practices relating to observing and protecting intellectual property rights.	5.2.1 Innovative Technology Management
	B6.4	Description of quality assurance process and recall procedures.	5.3.1 Project Quality
	B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	5.3.2 Service Quality

## 9 INDEX TO THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

General Disclosures and KPIs		Description	Chapter for Disclosure
Aspect B7: Anti-corruption			
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 corruption, blackmail, fraud and money laundering.		6.3 Promotion of Integrity Construction
KPI	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.	6.3 Promotion of Integrity Construction
	B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	6.3 Promotion of Integrity Construction
Aspect B8: Community Investment			
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 Responsibility: Being Committed to Benefit Sharing and Repaying the Society
KPI	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).	8 Responsibility: Being Committed to Benefit Sharing and Repaying the Society
	B8.2	Resources contributed (e.g. money or time) to the focus area.	8.2 Devotion and Donation to the Society



**北京城建设计发展集团股份有限公司**

BEIJING URBAN CONSTRUCTION DESIGN & DEVELOPMENT GROUP CO., LIMITED