



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



2022

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

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ABOUT THIS REPORT

Objective of the Report

As the eighth Environmental, Social and Governance (“ESG”) Report released by Beijing Urban Construction Design & Development Group Co., Limited (hereinafter referred to as “UCD”), this report is to provide UCD’s environmental and social performance during 2022, and to respond to ESG-related issues which stakeholders are concerned about. This report should be read in conjunction with the “Corporate Governance Report” section of the annual report for the year, so that all stakeholders are able to fully understand UCD’s sustainable development strategy, measures and relevant performance.

Scope of the Report

This report covers UCD and its member companies (hereinafter collectively referred to as the “Group” or “we”): Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd. (北京城建勘測設計研究院有限責任公司; hereinafter referred to as the “Exploration & Surveying Institute”) and Beijing Urban Rail Transit Construction Engineering Co., Ltd. (北京城建軌道交通建設工程有限責任公司; hereinafter referred to as the “Rail Company”). 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 2022 to 31 December 2022 (hereinafter referred to as the “Reporting Period”).

Preparation Basis

This report is prepared by the Group in compliance with the *Environmental, Social and Governance Reporting Guide* (《環境、社會及管治報告指引》) (hereinafter referred to as the “Guide” 《指引》) set out in *Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited* (《香港聯合交易所有限公司證券上市規則》) published by The Stock Exchange of Hong Kong Limited (hereinafter referred to as the “Hong Kong Stock Exchange”). The compliance with the *Environmental, Social and Governance Reporting Guide* (《環境、社會及管治報告指引》) is summarized in the “Annex: the Environmental, Social and Governance Reporting Guide”. This report has complied with all “comply or explain” provisions set out in the Guide 《指引》, and has been prepared in accordance with the four reporting principles: materiality, quantitative, balance and consistency.

Report Description

This report is published in Traditional Chinese and English. In the event of 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 from the online platform system adopted by the Group or by manual sorting. This report adopts Renminbi as the measurement currency.

ABOUT THIS REPORT (CONTINUED)**Response to the ESG Reporting Principles of the Stock Exchange****Materiality**

This report identifies material ESG issues based on the procedure for assessing systemically important issues, which involves identifying major stakeholders, identifying ESG issues related to the Group, inviting major stakeholders to participate in the assessment, and determining material ESG issues.

Please refer to the section headed "Assessment of Material Issues", for details of the assessment procedure and outcome of material issues.

Quantitative

This report discloses key performance indicators (hereinafter referred to as "KPIs") on environmental and social performance, the standards, methods, assumptions and calculation tools used to measure the KPIs, as well as the sources of conversion factors employed, so as to optimally assess our environmental and social performance during the Reporting Period.

Balance

This report gives a fair and true picture of our ESG performance in 2022, and provides readers with a basis for accurate decision-making or judgment.

Consistency

Unless otherwise stated, the KPIs in this report adopt statistical methods consistent with those adopted in previous reporting periods to improve the comparability of environmental and social performance results.

STATEMENT OF THE BOARD OF DIRECTORS

As the highest responsible and decision-making body for ESG matters, the board of directors (the “Board”) of the Group assumes the overall responsibility for the ESG strategy and reporting matters of the Group, while assessing and determining ESG risks to ensure the stable operation of the Group’s risk control and internal control systems. The Board has set up an ESG working group, which is responsible for the strategic deployment and coordination of ESG issues, and regularly reporting to the Board on the commitments and performance of key ESG issues to ensure that the Group’s ESG philosophy is fully implemented.

In order to avoid the impact of ESG risks on the Company in a timely and effective manner, the Group regularly conducts assessments on material ESG issues based on the external social and economic macro environment and the Group’s development strategy, taking into account the Group’s own characteristics, and reports them to the Board for review. Material issues related to ESG risks and opportunities discussed and identified by the Board will be incorporated into the Group’s overall strategy as the focus of ESG work, and the management level and performance of the issues will be continuously monitored.

The Group will pay long-term attention to the mechanism for the Board to participate in ESG work, and consider formulating ESG objectives in key areas such as pollutant discharge, energy consumption management, water resource consumption management, carbon emission, occupational health and safety and product quality, so as to incorporate ESG management performance into daily operation goals and fully promote the Group’s ESG governance work.

This report discloses in detail the progress and effectiveness of UCD’s ESG work in 2022, and has been reviewed and approved by the Board. The Board and all directors of UCD guarantee that this report is free of any false records, misleading statements or major omissions, and are individually and jointly liable for the authenticity, accuracy and completeness of the content hereof.

MESSAGE FROM THE MANAGEMENT

In the past year, China has efficiently coordinated economic and social development and maintained the general stability of the economy and society. In October, President Xi Jinping pointed out in his report to the 20th Party Congress that it is necessary to promote green development, accelerate the green transformation of the development mode, and actively and steadily promote carbon peak and carbon neutrality, which provides a fundamental guideline for the practice of China's high-quality development and ESG development concept.

By adhering to the guidance of Xi Jinping's Thoughts on Socialism with Chinese Characteristics for a New Era, UCD implements the Group's "14th Five-Year" strategic development plan, insists on consolidating the main industries and keeping integrity and innovation, and focuses on the strategic goal of being a design-led integrated urban construction service provider to promote the Group's industrial chain to a higher level, higher quality and higher grade, so as to achieve a high level of quality and steady development of the enterprise. As a leading enterprise in the industry, we recognize that the key to sustainable development is to continuously and actively fulfill our environmental, social and governance responsibilities while generating profits.

Ensuring high-quality project performance through scientific management. We always follow the management concept of "scientific management, quality transcendence, continuous improvement and customer satisfaction" and continue to improve the construction of the QHSE management system. We strictly control the safety production, take the implementation of the main responsibility of the enterprise's safety production as our primary task, with the aim of fundamentally eliminating accident hazards, and enhancing the modernization of the safety production governance system and governance capability. We pursue excellence in design and construction quality and strengthen customer service management. In 2022, the Group recorded no quality incidents, design review rate of 100%, design consulting achievement approval rate of 100%, project quality pass rate of 100%, one-time acceptance rate of unit project of 100%, achieving the annual quality targets.

Enhancing innovation and efficiency to produce high-quality development results. We regulate the business activities of the Company and its partners, proactively communicate with peers, and consistently regard product and technology innovation as the core competitiveness of the Company. In 2022, the Group continued to increase the efforts in reporting and promoting technological innovation achievements, by organizing the application of a number of provincial and ministerial-level local government science and technology awards, the China Science and Technology Progress Award, the 20th Zhan Tianyou Award and other industry science and technology awards, and nearly 150 awards in 51 categories, such as science and technology awards of many associations and societies, and excellent design awards, etc., and nearly 42 awards for science and technology innovation achievements.

Keeping people-oriented to cultivate high-quality talents. Upholding the concept of people-oriented employment, we recruited talents from all fields with an equal and inclusive attitude. We protected the basic rights and interests of our employees and promised non-discriminatory employment, so as to provide fair and broad development opportunities and channels for all our employees. We also cared for our employees through holiday condolences, blessings for marriage and childbirth, help for employees in difficulty, condolences for serious illnesses, condolences for key projects, mental health counseling, etc. By carrying out activities such as expert lectures and public class competitions, we built a platform for employees to realize their self-worth. Besides, we continued to promote the implementation of anti-corruption and integrity.

MESSAGE FROM THE MANAGEMENT (CONTINUED)

Striving for high-quality ecological development through green operation. In active response to the national carbon neutrality and carbon peak goals as well as the battle against pollution, we focused on the climate change. Adhering to green office, we promoted green construction and carried out environmental education, so as to continuously promote the construction of ecological civilization. We also continued to improve the environmental management system with a focus on controlling our own environmental impact to reduce environmental pollution through multiple measures. By empowering high-quality development with green and low-carbon operation, we promoted sustainable environmental development with practical actions, thereby fulfilling our responsibilities of environmental protection. In 2022, the compliance rate of green construction was 100%.

Caring for the people and building a harmonious society together. With a focus on common prosperity, we facilitated the targeted poverty alleviation and rural revitalization, while assisted local residents to achieve the goal of common prosperity. In the face of widespread of the domestic epidemic as well as the severe and complex COVID-19 epidemic overseas, we prudently implemented various prevention and control measures to achieve a double win in both epidemic prevention and control as well as production and operation.

2023 is a key year for the implementation of the “14th Five-Year Plan”. With a focus on the development goals of the “14th Five-Year Plan”, we will continue to strive for innovation and forge ahead to achieve steady development, stable innovation and stable quality improvement with more visible development resilience. With an aim to creating better returns for our shareholders and serving our customers, we will cooperate with our stakeholders to jointly promote sustainable economic, social and environmental development!

GROUP PROFILE

Founded in 1958, UCD is a technology-based engineering company that provides professional services for urban construction, with business coverage on urban rail transit, integrated transportation hubs, underground space development, industrial and civil buildings, municipal projects, urban planning, etc. With a complete industrial chain integrating design consulting, engineering construction, investment and financing, science and technology industrialization, real estate and cultural tourism, as well as operation and management, UCD also provides customers with professional full-services.

Listed on the Hong Kong Stock Exchange in July 2014, the Group is one of the earliest survey and design companies established in China. The Group has the comprehensive grade-A qualification, the highest qualification in China's design and survey industry, and is the main formulator of the national design specifications for urban rail transit industry in China. Besides, the Group has the first academician and expert studio for urban rail transit in China, has taken the initiative to lead the establishment of three technological innovation platforms, including the National Engineering Laboratory for Urban Rail Transit Construction Process and Technology (城市軌道交通建設工藝與技術國家工程實驗室), Beijing Rail Transit Structure Center (北京市軌道交通結構中心), and the Rail Transit Energy Conservation Center (軌道交通節能中心), and is committed to building a domestic first-class platform for the promotion of new technology innovation and application.

The Group has established business presence in nearly 70 cities in China with branches in more than 50 cities, and has extended its presence to overseas markets such as Russia, Vietnam, Kazakhstan, Columbia and Angola. We always adhere to the mission of "Design the City, Build the Future", and strive to become a design-led comprehensive service provider for urban construction, thereby promoting the organic integration and sustainable development of people, cities and the environment.

SUSTAINABILITY MANAGEMENT

ESG Management Structure

In accordance with the relevant recommendations of the Hong Kong Stock Exchange, the Group has established an ESG management structure with the Board as the highest responsible body, forming a clear division of functions among the overall planning of the Board, the coordination of the ESG working group, and the implementation of various sub-institutes and project companies, so as to ensure that ESG is integrated into the duty performance at all levels, thereby promoting the governance on sustainable development of the Group on an ongoing basis.

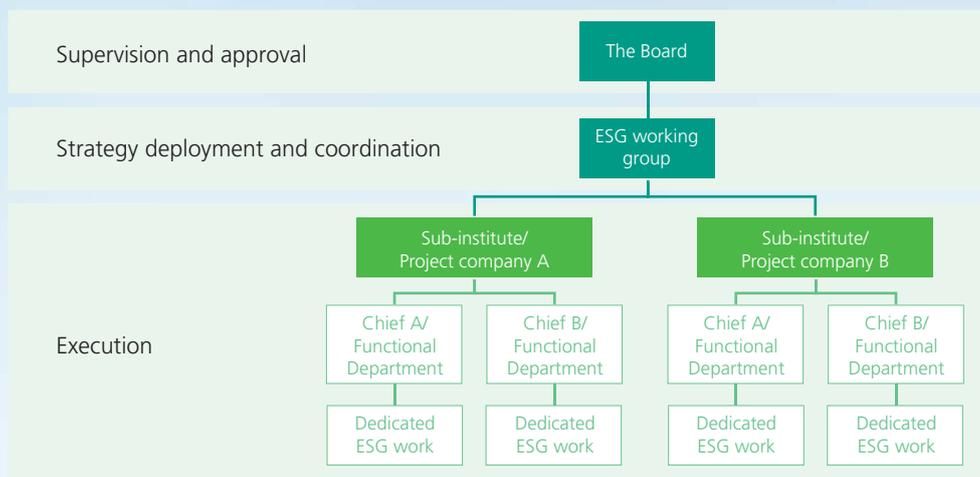


Figure: ESG management structure of UCD

At the decision-making level of ESG management structure, the Board assumes the overall responsibility for the Group's ESG countermeasures and reporting, is responsible for assessing and determining ESG risks, and guides the ESG working group to arrange and coordinate related matters in ESG work to ensure the stable operation of the Group's risk control and internal control systems. At the deployment and negotiation level of ESG work, the ESG working group is responsible for reporting ESG-related work to the Board, follows up the implementation, supervision, reporting and improvement of related practices, and implements the ESG management strategy and countermeasures formulated by the Board. In addition, we will further improve the participation mechanism of the Board in the formulation of ESG management goals to ensure long-term attention on and effective implementation of major ESG issues.

UCD selects Board candidates in compliance with the *Board Diversity Policy* 《董事會成員多元化政策》, taking into account the diversity, experience and skill requirements for the directors. As of 31 December 2022, the Board of the Group consisted of 12 directors, including 4 independent non-executive directors and 2 female directors. Among the Board members, at least one independent non-executive director has obtained a professional qualification in finance and the other directors have professional experience in law, finance, business management, public service and other fields to ensure the professionalism of the Group's decision-making.

SUSTAINABILITY MANAGEMENT (CONTINUED)

Communication with Stakeholders

The Group values the views of stakeholders from all fields. In order to maintain close communication with our stakeholders such as the government, investors, customers, employees, partners, society and the public, we constantly expand our communication channels and continuously optimize the communication mechanisms to proactively understand and respond to the demands of various stakeholders, thereby contributing to the realization of sustainable development with mutually benefits and win-win.

Stakeholders	Needs and Expectations	Response
 Government	<ul style="list-style-type: none"> Compliance with laws and regulations Payment of taxes Support for economic development 	<ul style="list-style-type: none"> Operation in compliance with relevant laws and regulations Payment of taxes in compliance with relevant regulations
 Investors	<ul style="list-style-type: none"> Return on investment Growth of business and earnings Risk management Information disclosure 	<ul style="list-style-type: none"> Transparent and regular disclosure of information General investor meetings Investor summits Roadshows
 Customers	<ul style="list-style-type: none"> Provision of high-quality products and services Satisfaction of customers' diversified needs Creation of value for customers 	<ul style="list-style-type: none"> Assurance of service quality Protection of customer information Survey of customer satisfaction
 Employees	<ul style="list-style-type: none"> Employee interests Training and development Occupational safety and health Work and life balance 	<ul style="list-style-type: none"> Provision of competitive and good remuneration and benefits Provision of various career development paths Improvement of employee training system
 Partners	<ul style="list-style-type: none"> Open, fair and equitable purchases Compliance with contracts 	<ul style="list-style-type: none"> Execution of contracts Open tendering
 Community and the public	<ul style="list-style-type: none"> Community development Public welfare undertakings 	<ul style="list-style-type: none"> Assistance in community construction Participation in public welfare undertakings and charities Regular organization of volunteer activities

SUSTAINABILITY MANAGEMENT (CONTINUED)

Assessment of Material Issues

In order to ensure the accuracy, pertinence and effectiveness of the identification and management of sustainable development issues, the Group communicates with stakeholders on a regular basis, comprehensively understands and collects views and feedback from the government, shareholders, employees, customers and other parties. The Group also continues to conduct in-depth evaluation and analysis of existing issues to ensure that material issues fit into the Group's current status of sustainable development.

The materiality assessment process is as follows:

STEP 1

Establish database of ESG issues

By reference to the basis for compiling this report, combined with corporate characteristics and peers' performance and based on the 2021 ESG issue database, the Group identified a total of 27 potential ESG issues in three aspects, i.e. environment, staff and operation, and included them in the 2022 ESG issue database.

STEP 2

Rank ESG issues

The Group invited relevant parties such as employees, the Board and the management to complete online stakeholder questionnaires, and ranked the materiality of three aspects of ESG issues from their perspectives.

STEP 3

Assess material ESG issues

Based on the results of the questionnaires, the Group developed the materiality matrix for the three aspects, namely environment, staff and operation, through analysis of the issues in terms of their "importance to staff" and "importance to UCD". ESG issues that receive an importance score of more than 50% in both categories are identified as "material ESG issues." A total of 16 material ESG issues were established this time.

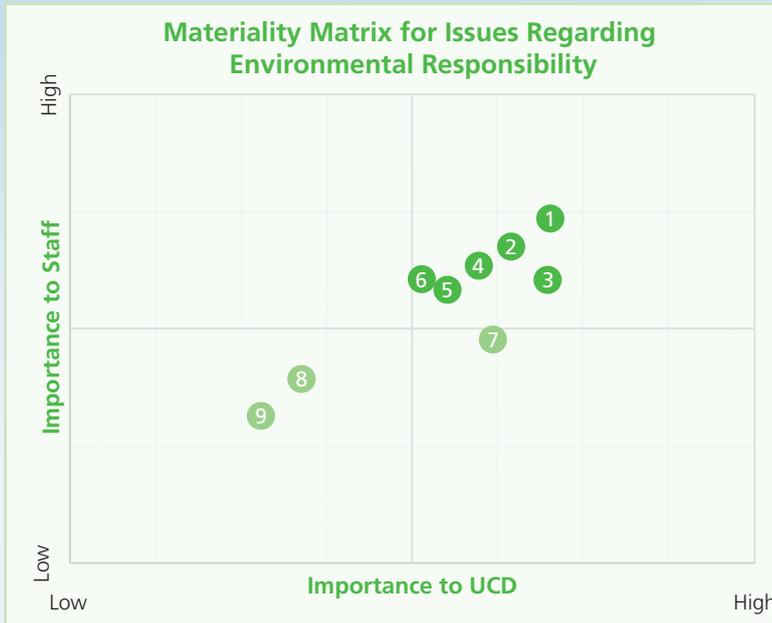
STEP 4

Confirm the outcome of the ESG issue assessment

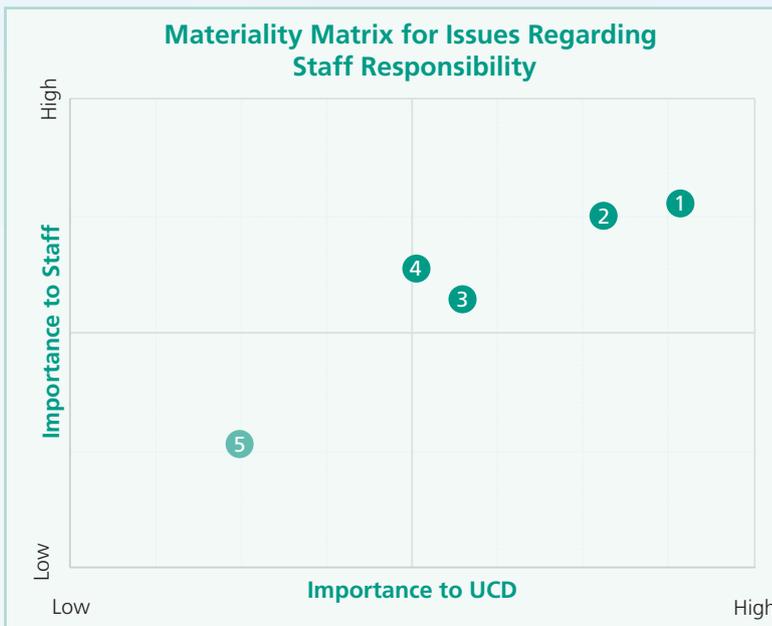
The Group invited the Board and the management to identify the material ESG issues to ensure that the results dovetail with the direction of the Group's sustainable development strategy. The later sections of this report focus on material ESG issues acknowledged by the Board and the management, with a view to responding to the ESG issues that concern the stakeholders most.

SUSTAINABILITY MANAGEMENT (CONTINUED)

Through the assessment, we developed the materiality matrix for the three aspects, namely environment, staff and operation.

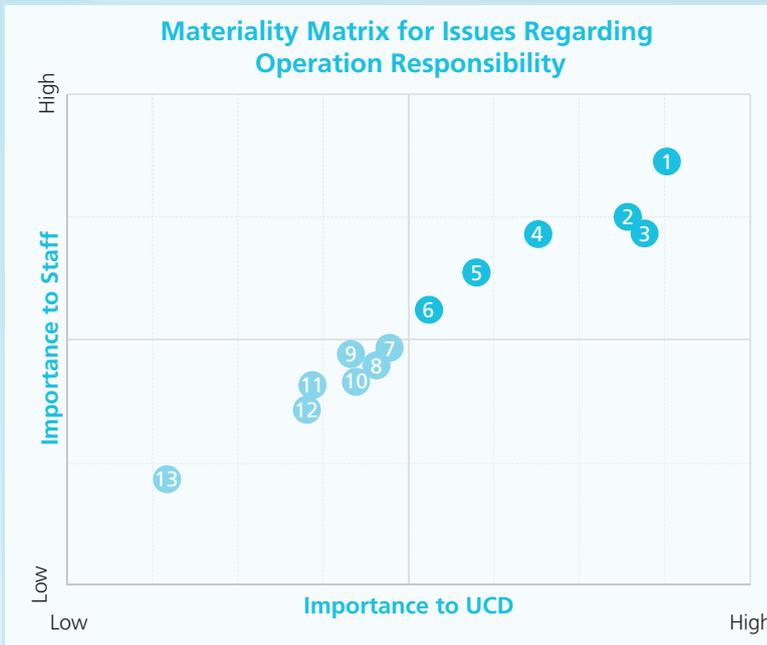


- 1 Discharge and management of pollutants
- 2 Discharge and management of waste
- 3 Management of energy utilization
- 4 Management of water resource utilization
- 5 Discharge and management of greenhouse gas
- 6 Green office policy management
- 7 Green construction policy management
- 8 Climate change response policy and measures
- 9 Participate in and donate to environmental protection activities



- 1 Protection of staff's interest
- 2 Management of staff's health and safety
- 3 Staff training and career development
- 4 Policy of staff benefits
- 5 Prohibition of child labor and forced labor

SUSTAINABILITY MANAGEMENT (CONTINUED)



- 1 Work safety
- 2 Service quality
- 3 Technological innovation
- 4 Project quality
- 5 Protection of intellectual property
- 6 Protection of customers' privacy
- 7 Selection and management of suppliers
- 8 Environmental risk management of supply chain
- 9 Standardization of tendering process
- 10 Social risk management of supply chain
- 11 Anti-corruption (anti-bribery, extortion, fraud, money laundering, etc.)
- 12 Communication with stakeholders
- 13 Community investment (e.g. education and healthcare improvement, poverty alleviation, etc.)

At the same time, we identified 16 material issues through the analysis on the matrix of material issues with specific orders as follows:

Environment Responsibility	
1	Discharge and management of pollutants
2	Discharge and management of waste
3	Management of energy utilization
4	Management of water resource utilization
5	Discharge and management of greenhouse gas
6	Green office policy management
Staff Responsibility	
1	Protection of staff's interest
2	Management of staff's health and safety
3	Staff training and career development
4	Policy of staff benefits
Operation Responsibility	
1	Work safety
2	Service quality
3	Technological innovation
4	Project quality
5	Protection of intellectual property
6	Protection of customers' privacy

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION

Material ESG issues addressed in this section are as follows:		
Work safety	Service quality	Technological innovation
Project quality	Protection of intellectual property	Protection of customers' privacy
Management of staff's health and safety		

The Group always follows the management philosophy of "Scientific Management, Superb Quality, Continuous Improvement, and Customer Satisfaction" and implements the QHSE management policies and systems. We continue to optimize the work safety system, develop safe and reliable products and services, promote the technology-driven innovation of the industry and steadily implement comprehensive supplier management, so as to lay a solid foundation for development with operational excellence.

1.1 QHSE Management Systems

In compliance with the *Qualify Management Systems – Requirements* 《質量管理體系要求》(GB/T 19001-2016), *Environmental Management Systems – Requirements with guidance for use* 《環境管理體系要求及使用指南》(GB/T 24001-2016), *Occupational Health and Safety Management Systems – Requirements with guidance for use* 《職業健康安全體系要求及使用指南》(GB/T 45001-2020), *Code for Quality Management of Engineering Construction Enterprises* 《工程建設施工企業質量管理規範》(GB/T 50430-2017) and other standards, UCD has systematically integrated quality, health, safety and environmental management models based on its characteristics to establish the four-in-one QHSE management system. Besides, it has been optimizing the management methods of the system to continuously improve the QHSE management and control level of the Group. In 2022, the Group's coverage rate of the ISO45001, ISO14001 and ISO9001 system certification was 100%.

There are three levels of the document structure of the QHSE management system. The first level is programmatic management documents relating to the basic framework of QHSE management and control, which has determined the Group's vision, QHSE policies and objectives and stipulated the principles and requirements that managers and staff at all levels must follow. The second level is system supporting documents, regulating the operation of management manual. The third level is documents relating to management regulations which have standardized the working process and requirements for management and all kinds of projects and affairs. Driving by management manual, procedure documents and management regulations, the Company's management of the quality, health, safety and environment was orderly implemented.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)



Figure: Document structure of QHSE system of UCD

1.2 Work Safety

Adhering to the work safety policy of “safety first, prevention in priority and comprehensive management (安全第一、預防為主、綜合治理)”, UCD constantly improves its work safety system with focus on the control of safety risk management. Meanwhile, it continues to enhance safety awareness of its staff and pays attention to occupational health and safety, making unremitting efforts in creating a safe working environment.

During the Reporting Period, the Group has strictly complied with the following laws and regulations related to providing a safe working environment and protecting employees from occupational hazards:

Safety Production Law of the People’s Republic of China (《中華人民共和國安全生產法》)

Law of the People’s Republic of China on the Prevention and Control of Occupational Diseases
(《中華人民共和國職業病防治法》)

Construction Law of the People’s Republic of China (《中華人民共和國建築法》)

Labor Law of the People’s Republic of China (《中華人民共和國勞動法》)

Construction Safety Management Regulations (《建設工程安全管理條例》)

Regulations on the Reporting, Investigation and Handling of Production Safety Accidents
(《生產安全事故報告和調查處理條例》)

and other national laws and regulations

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

WORK SAFETY SYSTEM BUILDING

The Group strictly abides by the *Safety Production Law of the People's Republic of China* 《中華人民共和國安全生產法》, the *Construction Law of the People's Republic of China* 《中華人民共和國建築法》, the *Construction Safety Management Regulations* 《建設工程安全管理條例》 and other laws and regulations, and has formulated the *Mandatory Safety Management Regulations* 《安全管理強制性規定》, the *Catalog of Work Safety Operation Procedures* 《安全操作規程目錄》 and other internal systems, so as to fully implement the working mechanism requirements of "business and operation management cannot be separated from safety management (管業務必須管安全、管生產經營必須管安全)" and "the Party and the government sharing the same responsibility, one post with dual responsibilities (黨政同責、一崗雙責)". In 2022, UCD revised the *Work Safety Accountability System for All Employees* 《全員安全生產責任制》 according to its actual situation to further clarify the work safety responsibilities at all levels and strengthen the assessment of work safety accountability system, thus establishing a work safety accountability system for all employees covering all aspects and extending to the lowest level.

Major Management Policies about Work Safety
<i>Work Safety Accountability System of Beijing Urban Construction Design & Development Group Co., Limited</i> 《北京城建設計發展集團股份有限公司安全生產責任制》
<i>Catalog of Work Safety Operation Procedures of Beijing Urban Construction Design & Development Group Co., Limited</i> 《北京城建設計發展集團股份有限公司安全操作規程目錄》
<i>Work Safety Capital Guarantee System of Beijing Urban Construction Design & Development Group Co., Limited</i> 《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》
<i>Measures of Beijing Urban Construction Design & Development Group Co., Limited on Work Safety Incident Reporting, Investigation and Disposition</i> 《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》
<i>Measures of Beijing Urban Construction Design & Development Group Co., Limited on Major Risk Source Control</i> 《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》
<i>Work Safety Inspection Mechanism of Beijing Urban Construction Design & Development Group Co., Limited</i> 《北京城建設計發展集團股份有限公司安全生產檢查制度》
<i>Measures of Beijing Urban Construction Design & Development Group Co., Limited on Reward and Punishment for Work Safety and Green Construction</i> 《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》
<i>Measures of Beijing Urban Construction Design & Development Group Co., Limited on Prevention and Control of Occupational Diseases</i> 《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》
<i>Work Safety Education and Training System of Beijing Urban Construction Design & Development Group Co., Limited</i> 《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》
<i>Mandatory Safety Management Regulations of Beijing Urban Construction Design & Development Group Co., Limited</i> 《北京城建設計發展集團股份有限公司安全管理強制性規定》
<i>Labor Protection Supply Management System of Beijing Urban Construction Design & Development Group Co., Limited</i> 《北京城建設計發展集團股份有限公司勞動防護用品管理制度》
<i>Emergency Rescue Plan for Work Safety Accidents of Beijing Urban Construction Design & Development Group Co., Limited</i> 《北京城建設計發展集團股份有限公司生產安全事故應急救援預案》

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

Exploration & Surveying Institute and Rail Company also regard safe production as paramount. They continuously implement the *Work Safety Accountability System* 《安全生產責任制》 and *Work Safety Inspection Mechanism* 《安全生產檢查制度》 to clarify the responsibilities and requirements of safety management at all levels and establish a complete safety management system.

In order to ensure the suitability, enrichment and effectiveness of the work safety system, UCD has been equipped with a qualified and competent safety management team according to the characteristics and problems found in daily operations. The Group and its members have established a work safety committee to comprehensively lead and coordinate the management of work safety. Meanwhile, we implement the work safety meeting system, and hold work safety meetings on a quarterly and monthly basis to discuss and summarize the work safety problems arising from daily operations, and propose solutions and optimization methods, so as to build a dynamic and stable work safety system, and strive to achieve the Group's work safety goal of "zero injury, zero accident, zero fatality". In 2022, the Group invested RMB75.6329 million in work safety. Meanwhile, UCD has not recorded any case of work-related injury or death for three consecutive years, and its loss of working days due to work-related injuries remained to be zero.

SAFETY RISKS AND RISK CONTROL

As a critical part of our risk management, safety risk management is key to the healthy and stable operation of the Group. In accordance with laws and regulations including the *Opinions on Constructing a Double Prevention Mechanism by Implementing the Guideline for Curbing Serious Accidents* 《關於實施遏制重特重大事故工作指南構建雙重預防機制的意見》 issued by the Office of the Work Safety Committee of the State Council, UCD has formulated the *Construction Safety Risk Grading Management and Hidden Trouble Investigation and Governance System* 《施工安全風險分級管控和隱患排查治理制度》 and other systems to clarify the inspection, determination and countermeasures for safety risks at all levels and improve the construction of a double prevention mechanism for risk grading management and hidden trouble investigation and governance, thus conducting safety management in advance and preventing any occurrence of accidents at the source.

UCD has established a leading group for the construction safety risk grading management and hidden danger investigation and governance, which is responsible for coordinating our construction safety risk grading management and hidden danger investigation and governance, and implementing differentiated identification and response for material risks, major risks, general risks and lower risks. Besides, the Group has set up a joint work safety inspection team to conduct regular inspections of hidden dangers existing in construction projects in and out of Beijing, which, if identified, will be uploaded to the work safety control platform in a timely manner. Both the Exploration & Surveying Institute and the Rail Company have identified safety risks at the construction site and regularly developed control measures, thereby forming an identified list of safety risk sources with responsibilities allocated to specific persons. In 2022, UCD carried out 403 safety inspections on construction sites, with a total of 2,327 inspection comments and 2,093 safety hazards identified throughout the year.

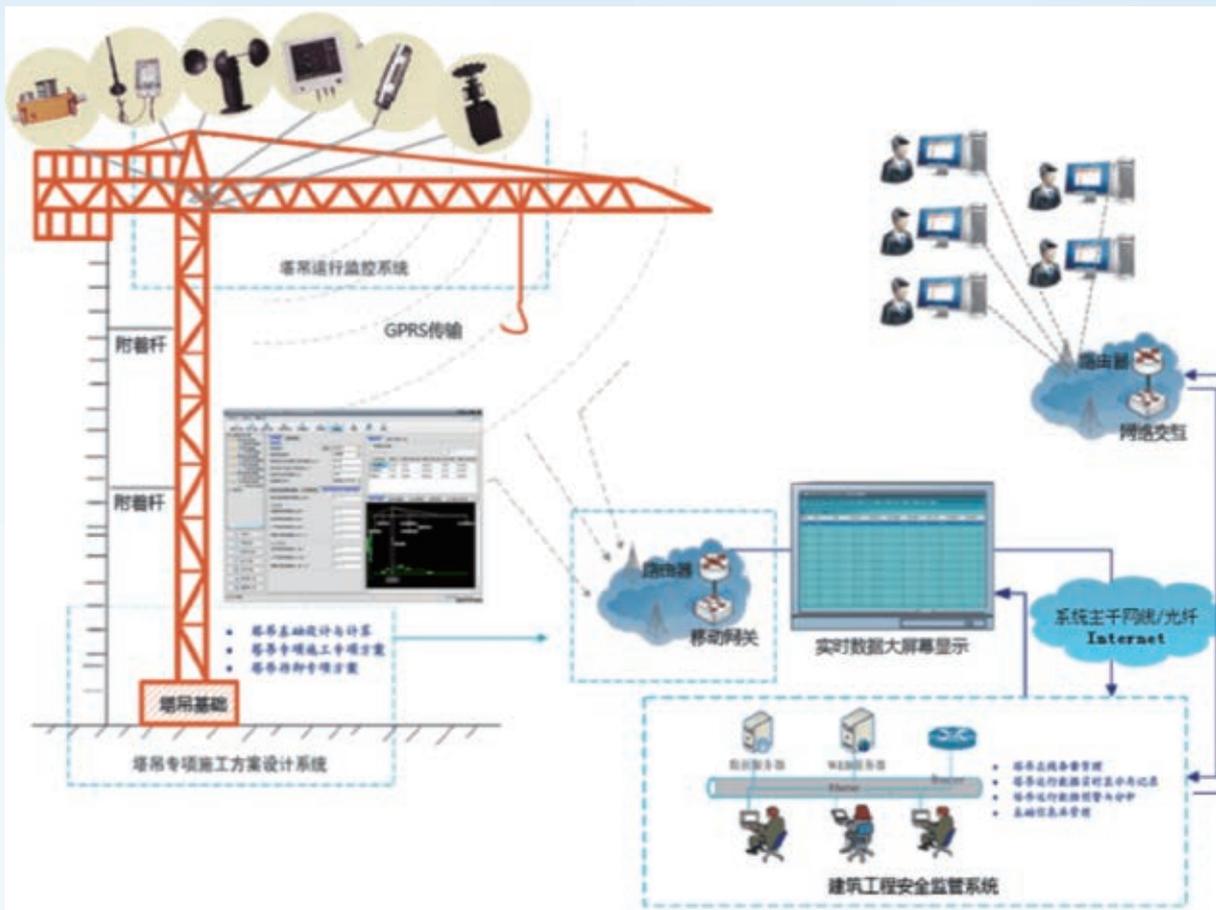
1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

To achieve informationization control over work safety risks, the Group has accelerated the construction of a safety management intelligent cloud platform to monitor the entire process of safety risks. Through the application of a visualized video surveillance system platform and remote video monitor, the Group has fully implemented online monitoring of hazards arising from major sources of danger and key posts.



Smart site applications adopted by the Rail Company enabled safety management informationization

In 2022, the Rail Company built a video monitoring system in cooperation with Grandsoft Company Limited, which realized full video monitoring coverage of projects under construction, network coverage of construction sites, use of tower crane anti-collision system, visualisation of tower crane hooks, VR experience room, electronic sentinel of gate guards and other smart site applications, thereby improving its safety management informationization.



Picture: Schematic of smart site applications

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

SAFETY TRAINING AND EMERGENCY DRILL

UCD attaches great importance to the cultivation of safety awareness among its employees, and has held education and training for all employees in accordance with the *Work Safety Education and Training System* 《安全生產教育和培訓制度》, so as to continuously raise employees' awareness of the importance of work safety and enhance their sense of responsibility for work safety. In 2022, the Group carried out various online and offline safety education and training in terms of prevention from falling from height, operation within a limited space, scaffolding training and fire safety and occupational health. The number of safety training hours per employee was 18.73 hours, with 11,998 person-times attending training sessions for the year.



The Group launched an experiential safety education with a 100% attendance rate

In 2022, the Group launched experiential safety education and training on a project-by-project basis, focusing on the effectiveness of safety education and adopting a new three-dimensional safety education model that combines visual, auditory and experiential aspects to implement physical safety education that can be felt and operated, so that participants can master safety operating procedures and safety measures in emergency situations, thus achieving the training effect of enhancing occupational skills, improving safety awareness and reducing the probability of accidents.



Picture: Experiential safety education

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)



The Exploration & Surveying Institute held the 8th work safety knowledge contest

On 21 June 2022, the Exploration & Surveying Institute held the 8th work safety knowledge contest. 36 participants from 12 teams competed online, and three team prizes and three outstanding individual prizes were awarded through the WeChat app and online subjective question answers.

This activity has strengthened our publicity and education on work safety, raised employees' awareness of safety and effectively promoted our safety culture development.



Picture: WeChat App for the 2022 Work Safety Knowledge Contest held by the Exploration & Surveying Institute

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

UCD conducts emergency drills on a regular basis to build up employees' safety knowledge, test their emergency actions and verify the practicality and reliability of emergency plans. According to the *Emergency Plan for Work Safety Incidents* 《生產安全事故應急救援預案》 and other regulations, the Group organizes an emergency drill once a year and clarifies the handling procedures of departments and employees in case of emergency, so as to enhance the Group's resistance to safety-related emergencies. In 2022, the Group revised and issued the *Emergency Response and Rescue Plan for Major Integrated Safety Incidents* 《重大綜合安全事故應急回應及救援預案》, which clearly defines the emergency response structure led by the Emergency Response Command for Major Integrated Safety Incidents with the cooperation of other departments, as well as responsibilities at each level.



Fire safety emergency drill in Lvxin project of the Rail Company during the "Month of Fire Protection Publicity (消防宣傳月)"

On 9 November 2022, the Lvxin 01 project of the Rail Company launched a fire drill at the construction site to further improve its awareness of fire safety, enhance its ability to deal with fire emergencies, improve the awareness of fire safety and the self-rescue ability of all employees, and enhance the ability of the fire safety team of the project department to quickly handle sudden fire situations at critical moments.

The drill covered fire-fighting, evacuation of personnel, maintenance of order at the scene and emergency aid for the injured, etc. It instilled a sense of responsibility and mission for fire safety among employees and created a benign internal fire safety environment.



Picture: Fire Safety Emergency Drill in Lvxin Project during the "Month of Fire Protection Publicity (消防宣傳月)"

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

OCCUPATIONAL HEALTH AND SAFETY

The Group is highly concerned about the construction of an occupational health and safety system. In accordance with the *Labour Law of the People's Republic of China* (《中華人民共和國勞動法》), the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases* (《中華人民共和國職業病防治法》), the *Management Regulations for Labor Protection Products of Employers* (《用人單位勞動防護用品管理規範》) and other national and local laws and regulations on occupational health, the Group has formulated the *Measures on Prevention and Control of Occupational Diseases* (《職業病危害防治措施》) to gradually improve the health and safety protection for employees. In 2022, the Group revised the *Measures on Prevention and Control of Occupational Diseases* (《職業病危害防治措施》) to further describe and define the types of occupational diseases that may occur, the corresponding protective measures and safety inspection measures so as to reduce or eliminate occupational hazards in workplaces.

In addition, the Group has formulated the *Labor Protection Supply Management 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勞動防護用品管理制度》), which sets out clear requirements on the procedures of procurement, acceptance, storage, distribution, use, replacement and retirement of labor protection supplies and provides a standardised reference for the management and provision of occupational health and safety equipment for employees.

Table: Preventive Measures for Occupational Health Hazards

Types of potential occupational diseases	Workplace management and preventive measures	Personal equipment and precautions
Pneumoconiosis	Adopt wet operation method wherever possible, and use dust-reducing equipment when the operation conditions permit. Strengthen ventilation and dust removal measures.	Distribute dust masks to construction workers according to the operating environment and replace them regularly.
Occupational poisoning	For work sites that are prone to carbon monoxide poisoning and hydrogen sulfide poisoning (such as underground pipelines, cellars, etc.), forced ventilation is required if toxic and harmful gases exceed the standard. Operation must not be started before the toxic and harmful gas content reaches the standard. Forced ventilation must be carried out in the workplace while operating.	Strictly implement safety operation regulations and work regularly in shifts.
Heatstroke	Arrange the working time reasonably and ensure the supply of heatstroke prevention drinks.	Increase or decrease clothing according to the weather, ensure regular rest during high temperature operation, and supplement salty drinks in time.
Noise deafness	For strong noise equipment on the construction site, noise reduction measures such as full enclosure must be taken.	Wear suitable earplugs according to the noise level of the workplace.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

To implement occupational health and safety measures, the Group has established an occupational health and safety inspection mechanism and conducts quarterly inspections on the prevention and control of occupational diseases, as well as random checks on the workplace environment and the use of protective equipment by employees from time to time. At the same time, we required relevant personnel to analyse the causes of the problems identified during the inspections, take corrective measures and provide timely feedback to the inspection department.

1.3 Service Quality

Adhering to the quality management policy of “Scientific Management, Super Quality, Continuous Improvement, and Customer Satisfaction”, Beijing Urban Construction Design has established a dynamic network to improve the quality of the Group’s services with comprehensive internal regulatory requirements, various channels for communication with customers and a comprehensive privacy protection system, in order to consolidate the Group’s core competitiveness.

During the Reporting Period, the Group complied strictly with the following laws and regulations relating to health and safety, advertising, privacy and remedies in relation to the products and services provided:

The *Construction Law of the People’s Republic of China* 《中華人民共和國建築法》

The *Construction Quality Management Regulations* 《建設工程質量管理條例》

The *Metrology Law of the People’s Republic of China* 《中華人民共和國計量法》

The *Regulations on Quality Inspection of Construction Projects* 《建築工程質量檢測管理辦法》

The *Contract Law of the People’s Republic of China* 《中華人民共和國合同法》

The *Advertising Law of the People’s Republic of China* 《中華人民共和國廣告法》

and other laws and regulations

DESIGN AND CONSTRUCTION QUALITY

Beijing Urban Construction Design is well aware of standardized engineering design and construction quality is the key to safeguard corporate efficiency. The Group follows the guidelines on quality control set out in the QHSE management system and has established corresponding quality control procedures throughout the lifecycle of projects in the design and consulting stage and the construction stage. In addition, it safeguards the quality of design and construction with a comprehensive quality inspection mechanism in place and reasonable product delivery protection. During the Reporting Period, the Group recorded no quality incidents, design review rate of 100% and design consulting achievement approval rate of 100%; project quality pass rate of 100% and one time acceptance rate of unit project of 100%, achieving the annual quality target.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

Table: Quality Assurance Procedure

Quality assurance procedure	Engineering design, engineering consulting segments	Construction segment
General control procedure	We executed process control, design drawing review, design quality release, post-design service, design change control procedures and other management procedures for design consulting services in accordance with the <i>Design Consulting Procedure Document</i> 《設計諮詢程序文件》.	We implemented management on construction technology, construction quality and construction production for construction contracting services in accordance with the <i>Construction Project Control Procedure Document</i> 《施工項目控制程序文件》, so as to ensure that all the above works have standardized quality standards, execution procedures, division of responsibilities and work records.
Inspection mechanism	Design quality is checked through random quality inspection 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 <i>Rules on Management of Punishment Regarding Technical Quality of Design</i> 《設計技術質量處罰管理規定》.	Quality supervision of construction segment included project inspections, quality meetings and statistical analysis of information submitted. For every issues identified, we will perform work in accordance with the <i>Rules on Management of Punishment Regarding Technical Quality of Construction</i> 《施工技術質量處罰管理辦法》.
Product protection	We provide proper product protection, including necessary packaging to prevent damage to the documents in-transit, before delivering design products to customers, and ensure that the design products delivered to customers are complete and intact. Anti-magnetic/scratch/deformation/damage, etc. measures are adopted for design documents delivered in electronic form.	Protection is provided for finished products and semi-finished products on building sites. Each project department is responsible for the handling, storage, protection, and delivery of products and building materials, with appropriate measures adopted to prevent damages to products and raw materials, degradation of product quality or performance, and ensure product quality and safety meet the prescribed requirements.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

Table: Awards of design and engineering projects in 2022 (selected)

Name of Award	Winning Projects
Outstanding Engineering Award for Geomatics Industry of 2022	<ul style="list-style-type: none"> • Integrated technology application of engineering surveying and risk monitoring of metro line of Haidianshanhou, Beijing • Risk monitoring project of the first rail transit express (Daxing International Airport line) in Beijing • Post-construction monitoring and third-party surveying of suburban railways for rail transit (Phase I) in Zhengzhou • Engineering surveying of rail transit line 1 in Urumqi
National Outstanding Geomatics Engineering Award	<ul style="list-style-type: none"> • Third-party monitoring project of metro line 8 (Phase III) in Beijing • Quality control on engineering surveying and safety risk monitoring project of rail transit line 2 in Xiamen
Outstanding Geomatics Engineering and Geographic Information Engineering Award of Beijing	<ul style="list-style-type: none"> • Third-party inspection services project monitoring section 1 of civil engineering for rail transit line 14 (Phase I) in Guangzhou • Third-party monitoring of Hangzhou-Lin'an intercity railway project • Third-party monitoring (section 2) of urban rail transit line 1 (Phase I) project in Hohhot • Third-party monitoring (section LYGD1-SFJC-02) of rail transit line 1 project in Luoyang • Quality control on engineering surveying and safety risk monitoring project of rail transit line 2 in Xiamen • Third-party monitoring of urban rail transit line 6 (Phase II) in Shenzhen • Post-construction monitoring and third-party surveying of suburban railways for rail transit (Phase I) in Zhengzhou
Engineering Survey and Design Industry Award of Henan Province	<ul style="list-style-type: none"> • Engineering survey (section 02) of rail transit line 4 in Zhengzhou
Quality Engineering Construction of Henan Province for 2021-2022	<ul style="list-style-type: none"> • Tongle station (excluded) – Renmin park station (included) of rail transit line 3 (Phase I) in Zhengzhou
Excellent Survey and Design Award (Geotechnical Monitoring) for Urban and Rural Construction System of Xuzhou	<ul style="list-style-type: none"> • Third-party surveying of urban rail transit line 1 (Phase I) in Xuzhou
Excellent Survey and Design Award (Engineering Survey) for Urban and Rural Construction System of Xuzhou	<ul style="list-style-type: none"> • Qiligou station of urban rail transit line 2 (Phase I) in Xuzhou • Yaozhuang station (Baigouyuan station) – Wenboyuan station (Tuolongshan station) of urban rail transit line 2 (Phase I) in Xuzhou
Excellent Survey and Design Award for Urban and Rural Construction System of Xuzhou	<ul style="list-style-type: none"> • Shizishan station (Huangshanlong station) of urban rail transit line 1 (Phase I) in Xuzhou • Qingfeng Road station (excluded) – Yihao Road station (Qiaojiahu station) (excluded) of urban rail transit line 1 (Phase I) in Xuzhou

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

CUSTOMER SERVICE

Beijing Urban Construction Design, upholding the value of customer first, considers enhancing service awareness and optimizing customer experience as the core of its business operation, and strives to create a new customer service landscape by concentrating efforts in the construction of customer communication channels, customer privacy protection and responsible marketing. In accordance with 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, the Group organizes regular visits to property owners for proactively understanding their needs and comments, while also gradually diversifying the channels for collecting customer feedback. At the same time, the Group has established local branches to communicate with customers easily on the progress of projects by relying on its team of experts and to exchange and analyze key technical issues in a timely manner.

In order to further improve our service standards, we actively follow up and resolve customers' comments and problems. If a customer lodges a complaint, we will communicate with the customer immediately, including informing the customer of the progress and the treatment of the complaint, etc. We prepare a half-yearly report on the analysis of customer complaints, urge the relevant departments to propose improvements to the customer's feedback, and form written documents on corrective and preventive measures to continuously improve customer satisfaction. During the Reporting Period, the Group strictly monitored the quality of customer services and the total number of customer complaints, quality-related complaints, service-related complaints and other complaints were all zero.

The Exploration & Surveying Institute, in active response to the Group's call on optimizing customer services, has formulated the *Customer Service Management Measures* (《顧客服務管理辦法》) and *Customer Service Assessment Rules* (《顧客服務考核細則》), in order to address customers' comments and suggestions in a timely and effective manner. The *Customer Service Management Measures* (《顧客服務管理辦法》) classifies the customer complaints received as major complaints, serious complaints and general complaints according to its severity, and refer such complaints to responsible departments and leaders to follow up. The results will be provided for customers within 24 hours.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

In order to protect customer privacy, the Group has formulated the *Confidential Work Management (Interim) Regulations* 《保密工作管理（暫行）規定》 and the *Server Security Management System* 《服務器安全管理制度》 to set out specific requirements for the information confidentiality scope, confidentiality matters, document management and circulation, document clearance, filing, destruction, informatization and archive management, and confidential personnel responsibilities. We also actively conducted confidentiality education and carried out regular inspections of relevant work. In the event that customer information is divulged by an employee, we investigate into the employee's liability according to the severity of the offense.



UCD conducted an information leakage drill

On 26 April 2022, UCD conducted an information leakage drill. The drill was divided into two parts, i.e. the simulation of hack of information system by hackers, and the information leakage of server operation and maintenance accounts and passwords.

The drill aimed to establish and improve the emergency working mechanism of network and information security operation, test the integrated emergency technology of network and information security, and verify the arranging, commanding and emergency handling capabilities of relevant organizations and personnel in dealing with network security emergencies, so as to constantly improve the capability and efficiency of emergency work carried out by all departments.



Picture: Information leakage drill

Furthermore, UCD has followed the *Advertising Law of the People's Republic of China* 《中華人民共和國廣告法》 and other laws and regulations related to business promotion compliance. In the ordinary course of business, UCD performed marketing control procedures under the QHSE System and its internal policies such as the *Marketing Management Measures* 《市場營銷管理辦法》, and conducted stringent control on tender matters related to design, consultancy and contracting businesses, so as to prevent misleading the public and clients.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

1.4 Promote Innovation

UCD is committed to its core competitiveness by virtue of scientific and technological innovation. With its scientific and technological innovation, the Group expects to optimize work efficiency, drive product upgrading and build brand awareness. With a strict intellectual property protection system and a complete scientific and technological innovation management structure, the Group has continuously broken technical barriers and achieved abundant innovation results. In addition, we also actively organized and participated in various industry exchange activities, enabling the prosperous development of technological innovation in the industry.

SCIENTIFIC AND TECHNOLOGICAL INNOVATION MANAGEMENT

To consolidate the comprehensive management of scientific and technological innovation of UCD, the Group has formulated the *Administrative Measures for Science and Technology Innovation Projects* 《科技創新項目管理辦法》, the *Implementation Rules for the Initiation of Science and Technology Innovation Projects* 《科技創新項目立項實施細則》, the *Administrative Measures for the Reimbursement of Funds for Science and Technology Innovation Projects* 《科技創新項目經費報銷管理辦法》 and the *Implementation Rules of the Company for the Offices of Well-known Experts* 《公司知名專家工作室實施細則》, therefore promoting the comprehensive progress and development of the Group.

In accordance with the internal Regulations on the *Management of Scientific and Technological Innovation* 《科技創新管理規定》, the Rail Company clearly specified the application process of scientific research funds, the bonus of scientific and technological employees and the bonus of various patents, in a bid to encourage all departments and employees to actively participate in the scientific and technological innovation work. The Exploration & Surveying Institute continued to optimize the management system of scientific and technological innovation, and in 2022, it set up the "Master Studio" to integrate the ideas of "overall planning, leading and innovation" into the work of scientific and technological innovation, formulate scientific and technological development plans, and accelerate the digital transformation of the business.

In 2022, the Group continued to strengthen the efforts of scientific and technological innovation achievements and promotion, and organized the application of nearly 150 awards for 51 categories of awards, including a number of local government science and technology awards at provincial and ministerial level, China Science and Technology Progress Award, the 20th Tien-yow Jeme Award and other science and technology awards of the industry, a number of associations science and technology awards, excellent design awards and others, among which nearly 42 awards were granted for its scientific and technological innovation achievements.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

Chart: List of scientific and technological innovation awards (Partial)

No.	Award Project	Award	Grade
1	Key technology of urban rail transit rail structure assembly construction and its application	China Award for Science and Technology in Construction	First Prize
2	Key technology of safety control for new subway underrunning existing subway	Urban Rail Transit Science and Technology Progress Award	First Prize
3	Research on multidimensional integration theory and key technologies of urban rail transit planning	Urban Rail Transit Science and Technology Progress Award	First Prize
4	Design of smart operation and control platform of urban rail transit network based on multi-operating entities and its practice	Urban Rail Transit Science and Technology Progress Award	Second Prize
5	The innovation of AFC network fusion system of urban rail transit in cloud architecture and its application	Urban Rail Transit Science and Technology Progress Award	Second Prize
6	Key technology of urban rail transit collaborative operation optimization and service capability enhancement and its application	Urban Rail Transit Science and Technology Progress Award	Second Prize
7	Integration of key technologies in urban terminal hub of metro rapid rail transit and its application	2022 Science and Technology Award of China Local Railway Association	First Prize
8	Metro Line 4 Project in Xi'an	19th Tien-yow Jeme Civil Engineering Prize	/
9	Suzhou Rail Transit Line 2 and its extension line project	19th Tien-yow Jeme Civil Engineering Prize	/
10	Research of key technology in operation safety and emergency management of urban integrated pipeline corridor and its application	2022 Science and Technology Award of China Occupational Safety and Health Association	First Prize
11	Key technology of urban traffic planning digitalization and its application	2022 Science and Technology Progress Award of China Intelligent Transportation Systems Association	First Prize
12	Research of key technology for identification and protection of bedrock groundwater resources under complex geological conditions and its application	Land Resources Science and Technology Award	Second Prize
13	Research of precision detection technology and equipment for subway tunnel structure and its application	Geographic Information Technology Progress Award	First Prize

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

No.	Award Project	Award	Grade
14	Integration technology of precipitation recharge for deep foundation pit construction in sand and gravel stratum	Application Achievement of Technological Innovation of Geotechnical Engineering in 2022	First Prize
15	Evaluation method of permeability of Tertiary red sandstone and complete set technology of foundation pit construction	Application Achievement of Technological Innovation of Geotechnical Engineering in 2022	First Prize
16	Application of BDS high precision positioning survey in elevated line of urban rail transit	Science and Technology Award for Satellite Navigation and Positioning -- Innovative Application Award for Satellite Navigation	Silver Award
17	Equipment of full cross-section dynamic precision measurement of tunnel structure and its application	Surveying and Mapping Science and Technology Award	Second Prize
18	Research and development of full cross-section integrated intelligent testing equipment for long tunnel and its industrial application	Science and Technology Award of China Association for Promotion of Science and Technology Industrialization	Second Prize

The Group strictly abides by the *Patent Law of the People's Republic of China* 《中華人民共和國專利法》, the *Regulations on the Implementation of the Patent Law of the People's Republic of China* 《中華人民共和國專利法實施條例》, the *Copyright Law of the People's Republic of China* 《中華人民共和國著作權法》, the *Regulations on the Implementation of the Copyright Law of the People's Republic of China* 《中華人民共和國著作權法實施條例》 and other laws and regulations related to intellectual property rights. An intellectual property protection system with the *Intellectual Property Management Measures* 《知識產權管理辦法》 formulated by the Group as the main management system has been established to protect the legitimate rights and interests of the state, enterprises and individuals and prevent the infringement of intellectual property.

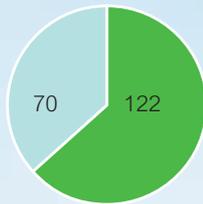
During the Reporting Period, the Group applied for 122 invention patents and utility model patents, and 70 software copyrights, and obtained 116 authorized patents and 180 software copyrights, with 460 authorized patents and 344 software copyrights in total. Among which, the Exploration & Surveying Institute applied for 6 invention patents and utility model patents, and 32 software copyrights, and obtained 18 authorized patents and 32 software copyrights, with 145 authorized patents and 108 software copyrights in total. Rail Company applied for 1 invention patent and utility model patent, and obtained 14 authorized patents, with 31 authorized patents and 2 software copyrights in total.

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

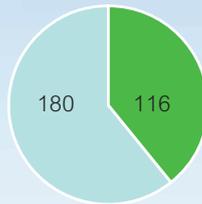
PROMOTION OF INDUSTRY EXCHANGES

The Group continues to tap its business potential, actively participates in major academic exchanges while hosting technical seminars. It also works with multiple partners to promote the exchange of innovative technologies in the industry, aiming to create a mutually beneficial and win-win cooperation situation jointly.

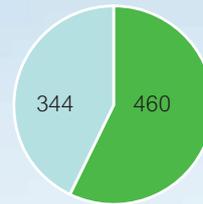
Patents applied for and obtained by the Group



- Number of invention patents and utility model patents applied for
- Number of software copyrights applied for

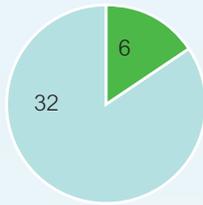


- Number of patents granted
- Number of software copyrights obtained

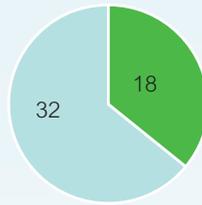


- Accumulative number of patents granted
- Accumulative number of software copyrights obtained

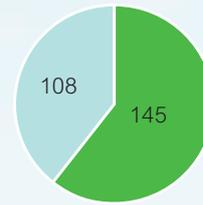
Patents applied for and obtained by Exploration & Surveying Institute



- Number of invention patents and utility model patents applied for
- Number of software copyrights applied for

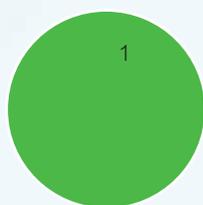


- Number of patents granted
- Number of software copyrights obtained

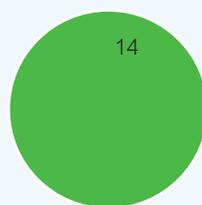


- Accumulative number of patents granted
- Accumulative number of software copyrights obtained

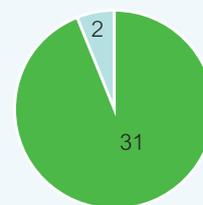
Patents applied for and obtained by Rail Company



- Number of invention patents and utility model patents applied for
- Number of software copyrights applied for



- Number of patents granted
- Number of software copyrights obtained



- Accumulative number of patents granted
- Accumulative number of software copyrights obtained

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)



UCD and China Urban Public Transport Association entered into strategic cooperation agreement regarding to intelligence guided MRT system based on vehicle-road coordination

On 20 April 2022, the Group and China Urban Public Transport Association entered into Strategic Cooperation Agreement regarding to intelligence guided MRT system based on vehicle-road coordination, so as to promote the application of digitalization, internet and intelligence in urban infrastructure and jointly carry out research on the coordinated development of smart cities and intelligent networked vehicles.

The Strategic Cooperation Agreement includes: promote the application of digitalization, internet and intelligence in urban infrastructure and jointly carry out research on the coordinated development of smart cities and intelligent networked vehicles guided by the spirit of the planning document of the "14th Five-Year Plan" housing and urban-rural construction and science and technology development, with the goal of building a green, smart, safe and reliable new urban infrastructure; cooperate in related fields to explore new promotion models of infrastructure and jointly promote the high-quality development of intelligent network and intelligent transportation industry.



Picture : Strategic Cooperation Agreement signing ceremony

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)



Optical Network Technology Seminar and Public Lecture for F5G All-Optical Network Intelligence for New Urban Construction held in UCD

On 26 August 2022, the Group organized the Optical Network Technology Seminar and Public Lecture for F5G All-Optical Network Intelligence for New Urban Construction jointly with China Engineering & Consulting Association Intelligent Branch and Optical Network Anywhere.

A number of leaders and industry experts were invited to exchange and share F5G all-optical network intelligent technologies under the theme of "F5G Helps New Urban Construction", aiming to promote the development of optical network technology and application innovation in the fields of construction, municipal administration and rail transit, and support the construction of new urbanization.



Picture: Optical Network Technology Seminar and Public Lecture for F5G All-Optical Network Intelligence for New Urban Construction

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

1.5 Supplier Management

Beijing Urban Construction designed and continuously improved the supply chain management system to strengthen the long-term, stable and active cooperative relationship with suppliers. To promote sustainable development of the Group and its suppliers, we strictly control the qualification requirements, admission standards, and procurement standards for our suppliers. In addition, we include low-carbon factors such as environmental protection and resource conservation in the standards for supplier selection and prioritize those adopting eco-friendly resources and implementing low-carbon concepts, thereby to promote the healthy competition among them.

To ensure the effectiveness and accuracy of the system and control process, we divide suppliers into two categories, i.e. engineering service suppliers and design service suppliers, and establish control procedures for admission, approval and other steps to manage the supplier system more distinctly and comprehensively.

DESIGN SERVICE SUPPLIERS

The Group has formulated and released the *External Cooperation Design Management Measures of Beijing Urban Construction Design & Development Group Co., Limited (Revised)* 《北京城建設計發展集團股份有限公司外部合作設計管理辦法(修編)》, which stipulates the major issues during the selection, technical management and quality control, and agreement fulfillment appraisal of design service suppliers, so as to ensure that suppliers shall satisfy the Group and customers in terms of quality and delivery.

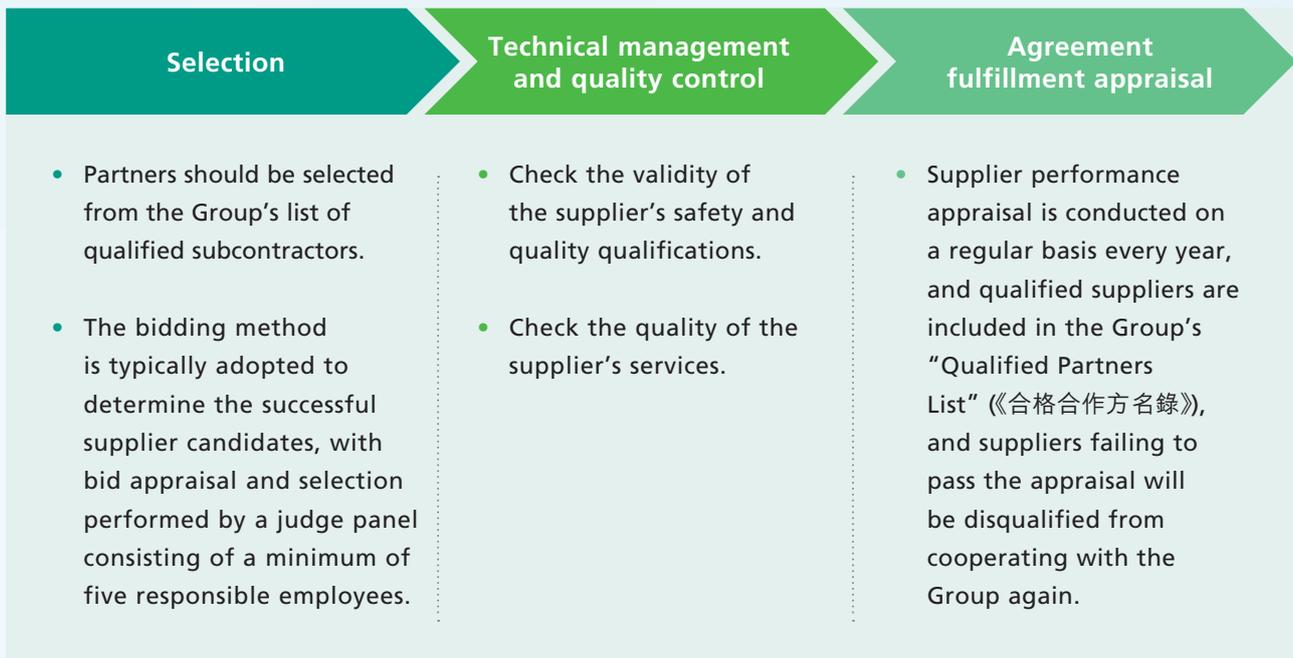


Chart: Specific requirements for design service suppliers

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

ENGINEERING SERVICE SUPPLIERS

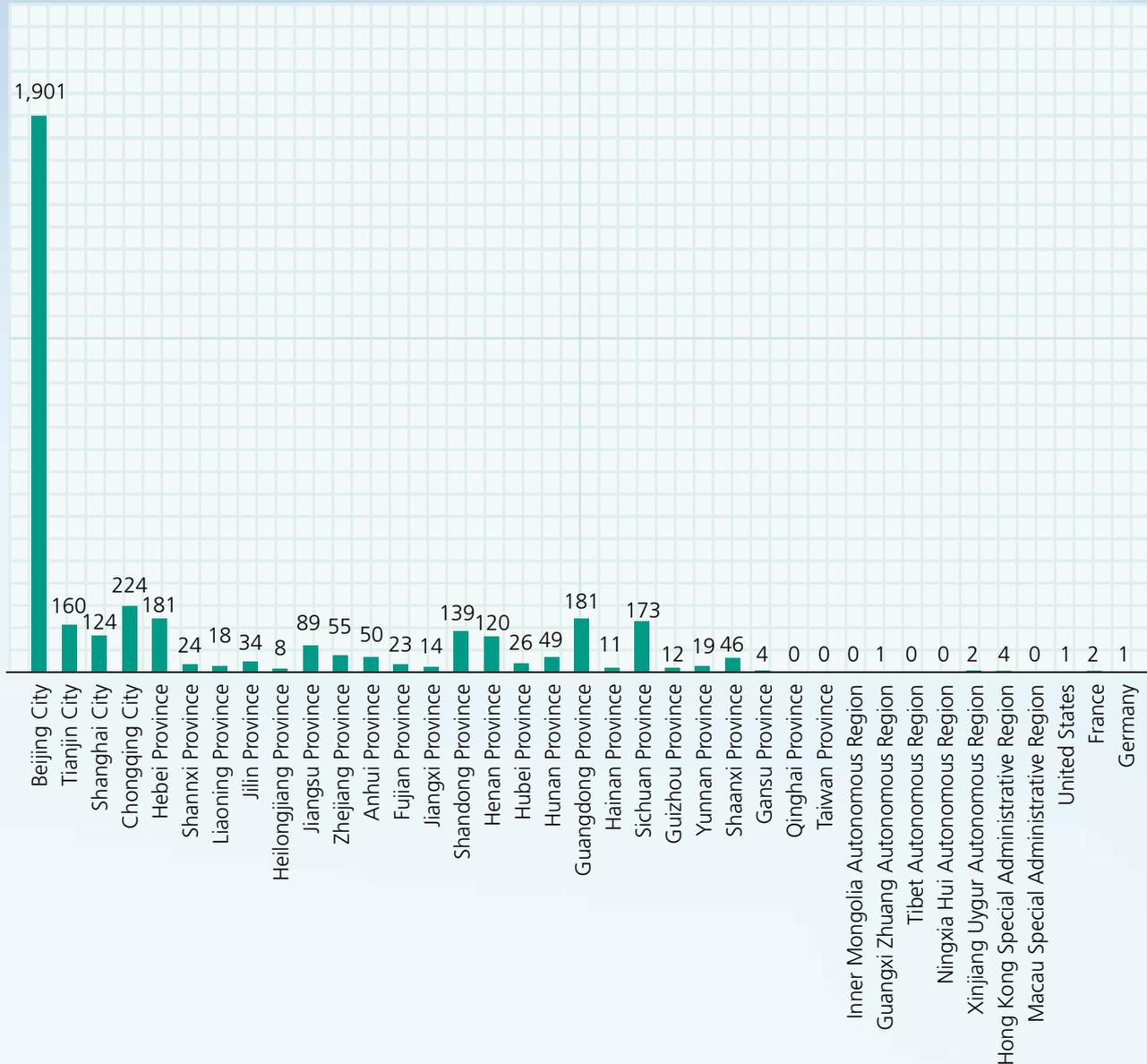
The Group has formulated the *Rules on the Tendering Management for Construction Projects of Beijing Urban Construction Design & Development Group Co., Limited* (《北京城建設計發展集團股份有限公司施工項目招標管理規定》), the *Rules on Subcontracting Management for Professional Projects of Beijing Urban Construction Design & Development Group Co., Limited* (《北京城建設計發展集團股份有限公司專業工程分包管理規定》) and other rules and systems to closely monitor material procurement, professional subcontracting, environmental protection, occupational health and safety and other sections, which shall strengthen the supervision of the Group on them.



Chart: Control procedure for professional subcontractors

1 OPERATIONAL EXCELLENCE, AND PROFIT GENERATION (CONTINUED)

In 2022, the Group had 3,696 qualified suppliers in total, and the regional distribution of the suppliers is as follows¹:



Picture: Number of suppliers by geographical region

The Exploration & Surveying Institute and Rail Company abide by the group systems to optimize the supplier management and developed their distinctive management measures applicable to their operations. Among which, Exploration & Surveying Institute implemented the *Management Provisions on the Review and Management of Production Suppliers and the Approval Process for Subcontracting Applications of Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd.* 《北京城建勘测設計研究院有限責任公司生產類供方評審、管理及分包申請審批流程管理規定》, which further standardize the review of suppliers, the use of the *List of Qualified Suppliers* 《合格供方名錄》, and the supervision of suppliers, while Rail Company implemented the *Implementation Rules for Professional Engineering Subcontracting Management* 《專業工程分包管理實施細則》 to supplement the regulations on recruitment, construction management and performance appraisal regarding professional engineering subcontractors.

¹ Number of suppliers by geographical regions is classified according to the locations where the headquarters of the suppliers are. Statistics includes the suppliers' data of the Institute, Exploration & Surveying Institute and Rail Company.

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE

Material ESG issues addressed in this section are as follows:

Policy of staff benefits	Protection of staff's interest	Staff training and career development
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We believe that a stable development platform with broad vision for employees to allow them enjoy and balance work and life and to enhance self-worth will be the only way to realize the Group's corporate mission of "Design the City, Build the Future". To this end, the Group adheres to the people-oriented concept during employment and recruits talents from all walks of life by providing equal opportunities. Besides, the Group respects and protects the legitimate rights and interests of employees and creates anti-corruption and integrity work environment to ensure that every employee enjoys fair treatment and opportunity.

2.1 Talent Management

The Group respects and protects the legitimate rights and interests of its employees and adheres to equality and diversity during employment. Except for creating an equal, non-discriminatory, harmonious and comfortable working environment for its employees, the Group also concerns their concern and helps them indeed so as to build a better future together.

During the Reporting Period, the Group has strictly complied with the following laws and regulations related to remuneration and dismissal, recruitment and promotion, working hours, holidays, equal opportunities, diversity, anti-discrimination, and other benefits:

<i>Labor Law of the People's Republic of China</i> 《中華人民共和國勞動法》
<i>Labor Contract Law of the People's Republic of China</i> 《中華人民共和國勞動合同法》
<i>Regulation on the Implementation of the Employment Contract Law of the People's Republic of China</i> 《中華人民共和國勞動合同法實施條例》
<i>Prohibition of Child Labor Provisions</i> 《禁止使用童工規定》
and other national laws and regulations

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

EMPLOYMENT AND DISMISSAL

The Group strictly complies with applicable laws and regulations related to labor and employment in China and places where we operate, such as the *Labor Law of the People's Republic of China* 《中華人民共和國勞動法》. We have formulated relevant policies in accordance with the procedures for recruitment, induction, employment, and resignation, strengthened labor contract management and employee daily management, and legally established stable and harmonious labor and employment relationships.

Recruitment and dismissal measures of UCD	
Recruitment	<i>Rules of Beijing Urban Construction Design & Development Group Co., Limited on Recruitment Management</i> 《北京城建設計發展集團股份有限公司招聘管理辦法》
Induction	<i>Administrative Measures for the Employment of Employees of Beijing Urban Construction Design & Development Group Co., Limited (Interim)</i> 《北京城建設計發展集團股份有限公司員工入職管理辦法(暫行)》
Employment	<i>Labor Contract Management Measures of Beijing Urban Construction Design & Development Group Co., Limited</i> 《北京城建設計發展集團股份有限公司勞動合同管理辦法》
Resignation	<i>Administrative Measures for the Resignation of Employees of Beijing Urban Construction Design & Development Group Co., Limited (Interim)</i> 《北京城建設計發展集團股份有限公司員工離職管理辦法(暫行)》

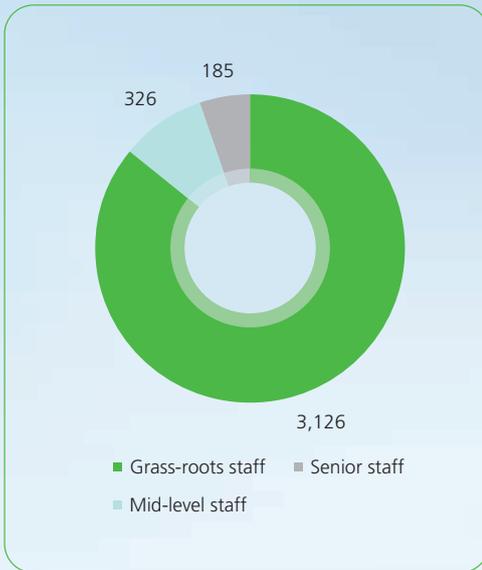
We conduct recruitment information release, resume screening, recruitment testing and other work in accordance with the *Rules on Recruitment Management* 《招聘管理辦法》 in line with our own development needs and existing staffing. We select candidates based on their professional abilities and moral qualities to ensure that the personnel recruited meet the requirements for the relevant positions. As of the end of the Reporting Period, UCD has a total of 3,637 employees, all of whom are full-time employees.

UCD prohibits all possible illegal labor practices such as child labor and forced labor. The Group strictly implements the *Administrative Measures for the Employment of Employees (Interim)* 《員工入職管理辦法(暫行)》 to carry out the information review process on candidates, require each candidate to provide a valid ID card to verify their background and age. Meanwhile, following the principles of free will, equality and consensus, we enter into an employment contract with every new employee, and resolutely avoid any forms of forced labor. In the event that any instances of forced labor or child labor are identified, they will be strictly handled in accordance with relevant laws and regulations as well as internal requirements of the Group. In addition, where the Group or an employee proposes to rescind, or not to renew, the employment contract, we exercise the standard departure process, work handover process and severance arrangements prescribed in the *Administrative Measures for the Employment of Employees (Interim)* 《員工入職管理辦法(暫行)》 for resignation to protect the rights and interests of both parties. In 2022, there were no employment related violations in the Company.

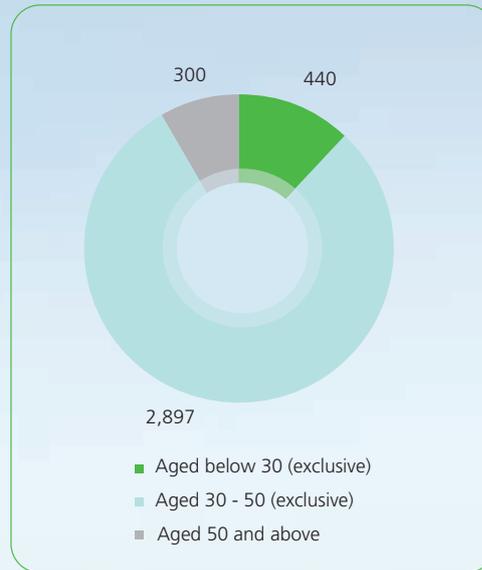
2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

Employment of Employees of the Group

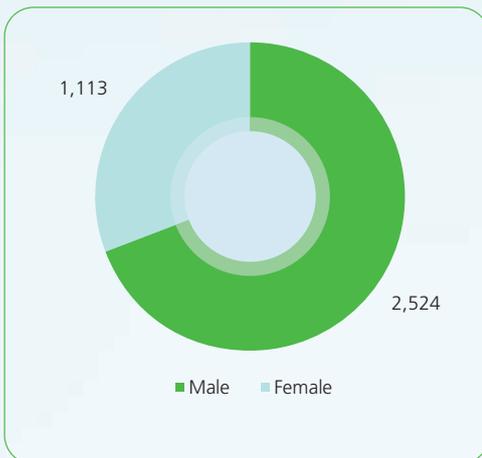
Employee counts by employee type



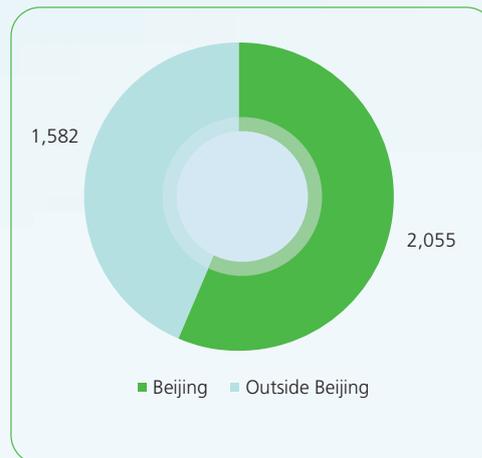
Employee counts by age group



Employee counts by gender



Employee counts by region²



² Employee counts by region is categorized by the location of the companies where the labor contracts were signed.

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

Employee Turnover Rate of the Group

Employee Category		Turnover rate ³
Employee counts by employee type	Grass-roots staff	4.7%
	Mid-level staff	4.0%
	Senior staff	0.5%
Employee counts by age group	Aged below 30 (exclusive)	5.9%
	Aged 30 - 50 (exclusive)	4.0%
	Aged 50 and above	6.3%
Employee counts by gender	Male	5.1%
	Female	2.8%
Employee counts by region	Beijing	3.7%
	Outside Beijing	5.2%

³ The employee turnover rate is calculated by dividing the number of employees belonging to a certain category during the Reporting Period by the total number of employees in the category at the end of the Reporting Period.

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

DIVERSITY AND EQUALITY

UCD supports the principles of inclusiveness, diversity, and equal opportunity, establishes a fair and mutually respectful work environment, and provides equal opportunities for all employees in terms of recruitment, promotion, and remuneration. All applicants and employees are not subject to differential treatment or discrimination in their employment relationships regardless of their gender, age, ethnicity, region, religion, etc. The Group implements a policy of equality between male and female employees and equal pay for equal work. Based on the overall economic benefits, the remuneration of employees is determined according to the requirements of each position, their personal abilities, and work performance. In order to protect the legitimate rights and interests of female employees, we fully implement labor protection for female employees in welfare benefits, insurance, holidays, and work environment. In 2022, the Group purchased special illness insurance for 1,241 female employees, and declared insurance benefits for four female employees who had insurance accidents.



Picture: Maternal and Infant Room at the Institute

REMUNERATION AND PROMOTION

UCD has established a competitive remuneration and welfare portfolio based on the standards and conditions of its industry, and pays various basic social insurance and housing provident fund for employees; provides benefits such as education funds, trade union funds, assistance in difficult situations, and major disease relief to provide employees with multi-level and comprehensive protection. The Exploration & Surveying Institute has established an enterprise annuity system to purchase accident insurance for employees, and provides corresponding subsidies based on their work efficiency, professional skills, and length of service. At different times of each year, employees are provided with allowance for books and newspapers, heatstroke prevention, heating, and labor protection.

The Group attaches great importance to the establishment and maintenance of the rank system. It has established clear systems for post establishment, post evaluation, post adjustment, talent management, and incentives, creating a more flexible and broader promotion space for talents, and continuously improving their work enthusiasm.

Exploration & Surveying Institute and Rail Company have developed competitive remuneration management and promotion systems based on their actual situation and development needs, and determine employees' salaries and offer promotion opportunities according to their performance and rank.

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

Systems Relating to Remuneration Management of UCD	
The Institute	<i>Measures for Employee Remuneration Management and Calculation of Beijing Urban Construction Design & Research Institute</i> 《北京城建設計研究總院職工薪酬管理與核算辦法》
	<i>Administrative Measures for Positions and Ranks of Beijing Urban Construction Design & Research Institute</i> 《北京城建設計研究總院崗位及職級管理辦法》
Rail Company	<i>Remuneration Management System (Trial) of Beijing Urban Rail Transit Construction Engineering Co., Ltd.</i> 《北京城建軌道交通建設工程有限公司薪酬管理制度(試行)》
	<i>Measures of Beijing Urban Rail Transit Construction Engineering Co., Ltd. for the Management of Staff Benefit Bonuses (Trial)</i> 《北京城建軌道交通建設工程有限公司員工效益獎金管理辦法(試行)》
Exploration & Surveying Institute	<i>Remuneration Management System of Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd.</i> 《北京城建勘測設計研究院有限責任公司薪酬管理制度》
	<i>Rules for the Implementation of Remuneration Management of Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd.</i> 《北京城建勘測設計研究院有限責任公司薪酬管理實施細則》

WORKING HOURS AND HOLIDAYS

The Group advocates a balance between work and life for employees, and establishes a standardized working hours management and vacation mechanism to standardize the management of working hours, attendance, leave and holidays of employees. For positions with different needs, we implement standard working hours and flexible working hour system based on the 8-hour working system. We regularly submit an application for flexible working hour system to relevant authorities each year, and implement the same after approval and publicity by the regulatory department, so as to provide flexible and dynamic work hour schemes for employees. Meanwhile, employees can apply for overtime by filling in the *Overtime Approval Form* 《加班審批表》 according to their work needs, and the Company will pay overtime wages to employees as required to ensure reasonability of working hours and remunerations.

On the basis of public and statutory holidays stipulated by the government, the Group provides employees with sick leave, casual leave, marriage leave, home leave, funeral leave, maternity leave, work-related injury leave, public holiday and annual leave to meet their daily needs. At the same time, in order to facilitate employees who are far away from their families, we specially provide twenty to thirty days of home leave, allowing employees to experience the dual warmth provided by their families and the Company.

Systems Relating to Employee Attendance, Leave and Holidays of UCD	
General principles	<i>Labor Law of the People's Republic of China</i> 《中華人民共和國勞動法》
Work attendance, leave and holidays	<i>Rules on Management of Work Attendance, Leave and Holidays of Beijing Urban Construction Design & Research Institute Co., Ltd.</i> 《北京城建設計研究總院有限公司員工考勤與休假管理辦法》

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

DEMOCRACY AND CARE

UCD adheres to the democratic management system and factory affairs disclosure system in the basis form of employee congress, assists employees in solving relevant issues, and implements and maintains employees' rights to information, participation, expression, and supervision through various forms of disclosure channels such as employee congress, work meetings, company publications, and WeChat public account.

The Group has been putting the well-being of employees in the first place, and we actively carry out holiday greetings, psychological counseling, themed activities on March 8th Festival and support for employees in difficulty, and provide staff care through major illness relief and illness sympathy to relieve the living pressure of employees and to fully demonstrate the humanistic care of the enterprise. During the Reporting Period, the Group invested approximately RMB8.3 million in various employee care programs, including holiday greetings, support for employees in difficulty, major and severe illness relief, and psychological counseling.



The Group provided psychological counseling services for employees

In order to popularize psychological knowledge, the Group actively promoted psychological knowledge and psychological care methods in 2022 by organizing live lectures and related micro-courses and micro-videos on "Psychological Support in Community Epidemic Prevention Work" and offline lectures on the theme of "Love and Communication, Accept Yourself as You Are", so as to mitigate employees' anxiety and reduce psychological crisis. Meanwhile, the Group's labor union actively shared the 7*24 free psychological counseling appointment hotline of the Beijing Municipal Federation of Trade Unions to provide one-on-one psychological counseling for employees in need and guide employees to work happily and live healthily.



Picture: Psychological lecture

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)



The Exploration & Surveying Institute carried out the "Sending Warmth in Winter" activity

In January 2022, keeping the front-line employees in mind, the leaders of the Exploration & Surveying Institute carried out the "Sending Warmth in Winter" activity together with the trade union. The president of the Exploration & Surveying Institute went to the construction site of the Jingmi Road project team, communicated cordially with the drilling workers, listened to the production report of the project manager, discussed with workers on key issues, and emphasized the quality of the project and the safety of workers.



Picture: Condolence scene

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)



Rail Company launched themed activity on March 8th Festival

In March 2022, Rail Company organized series of activities themed “Beautiful Handcrafts, A Celebration for March 8th”. During the activity, the professional floral designer taught the basic knowledge of flower arrangement, color matching and technical points of flower selection and cutting, and demonstrated how to design a basket of flowers with clear layers, well-spaced and outstanding artistic conception. At the end of the activity, employees took a group photo with their floral works with a sense of happiness and accomplishment.



Picture: Themed activity on March 8th Festival organized by Rail Company

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

We also pay attention to the balance between employees' life and work, always adhere to the daily and normal activities of employees, and adopt the method of allocating union trade funds to encourage each affiliate to carry out activities on its own. In 2022, given the impact of the epidemic factors, the Group organized activities such as "Cloud Walking", "Cloud Reading", "Cloud Rope Skipping" and "Cloud Painting and Calligraphy" in a combination of online and offline methods, with a total of more than 13,000 participants, thereby enriching the cultural and sports life of employees and creating a harmonious and friendly corporate atmosphere.



Picture: "Cloud Rope Skipping" activity organized by the Group

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

2.2 Craftsmanship

UCD emphasizes the cultivation of talents, and on the basis of the relevant training administrative measures such as the *Administrative Measure for Training 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培訓管理辦法》) and the *Administrative Measure of Beijing Urban Construction Design & Development Group Co., Limited for Internal Lecturers* (《北京城建設計發展集團股份有限公司內部講師管理辦法》), it continuously promotes the standardization and institutionalization of the employee training management process from investigation of training needs, formulation of training plans, management of training files, training assessment and evaluation to training summary and improvement, so as to improve the effectiveness of employee training and strengthen the construction of talent teams.

According to the needs of business development and employees' own potential, we provide employees with all-round education support, organize and launch various company-level and specialized training and education activities, providing employees with a rapid growth channel, incubating core talents for the Group, and thereby realizing the common growth of the Group and employees. Furthermore, we encourage all directors to participate in trainings such as "Training on Information Disclosure", "Training on Hong Kong Listing Rules", "Training on ESG Corporate Governance Regulations" and "Training on Connected Transactions", and regularly provide directors with a brief introduction about the latest changes and development of the Group's business, operations, relevant legislative and regulatory environment. In 2022, the total training hours of the staff and directors of the Group was 264,275.50 hours, and the training rate of the staff and directors was 100%.

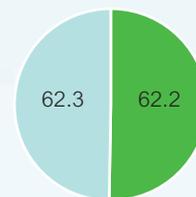
Employee Training

Average hours by employee type



■ Grass-roots staff ■ Mid-level staff ■ Senior staff

Average training hours by gender



■ Male ■ Female



UCD organized expert lecture training activity

In April 2022, Zhang Guohua, Chief Engineer of the Urban Center of the National Development and Reform Commission and President of the Land Industry and Transportation Planning Institute, was invited to the Group for the expert lecture training activity themed "Thinking on Rail Transit Development from the Perspective of New Balance between Work and Housing". During the training, President Zhang Guohua pointed out that urbanization was the only way for China to realize modernization, among which "work, housing and transportation" were the three key issues in the process of urbanization. Moreover, President Zhang Guohua gave an in-depth interpretation on how to base on the new stage, how to implement the new concept, and how to build a new pattern.

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)



Exploration & Surveying Institute organized centralized induction training for new employees

In 2022, the Exploration & Surveying Institute carried out centralized induction training for new employees, and invited leaders of relevant institutes, heads of functional departments and production units for on-site lectures, with the contents covering the development history of the enterprise, corporate culture, party and league construction, responsibilities of the trade union, responsibilities and systems of each functional department, and business overview of each production unit, so as to enhance their understanding and cognition of the institute and their positions, and organized outdoor development activities for them to enable them adapt to the team faster.



Picture: Centralized induction training for new employees organized by the Exploration & Surveying Institute



The Group launched the 1st open class competition

In July 2022, in order to promote the transformation and inheritance of management experience, and select and cultivate a batch of outstanding lecturers capable of job experience extraction, curriculum development and knowledge promotion, the Group organized the 1st open class competition empowerment training through online conference. The training content covers course demand analysis, course structure design, course development design, course implementation design (teaching skills), course evaluation and assessment, etc. Through this activity, the training and teaching ability of the participating lecturers has been significantly improved.

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

2.3 Anti-corruption

UCD strictly abides by relevant national laws and regulations, formulates internal management policies such as the *Punishment Regulations for Managements Violations and Non-compliance* 《管理人員違紀違規行為處分規定》, the *Anti-Fraud Management System* 《反舞弊管理制度》 and the *Management Regulations on Internal Audit* 《內部審計管理規定》, clarifies the concepts and forms of business ethics and anti-corruption, establishes anti-corruption prevention and control mechanisms, and standardizes the whistleblowing, investigation, reporting and punishment procedures of corruption cases.

During the Reporting Period, the Group has strictly complied with the following laws and regulations related to preventing bribery, extortion, fraud and money laundering:

Criminal Law of the People's Republic of China 《中華人民共和國刑法》

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》

Company Law of the People's Republic of China 《中華人民共和國公司法》

and other national laws and regulations

During the Reporting Period, the Group actively pursued the implementation of anti-corruption and integrity initiatives. In order to promote integrity and discipline, and eliminate corruption, we organized employees to sign a letter of commitment to integrity, in attempt to jointly create a fair, just, open and orderly business environment. In 2022, Rail Company formulated the *Opinions on the Division of Major Work Tasks for Integrity Construction and Anti-Corruption in 2022* 《2022年黨風廉政建設和反腐敗工作主要任務分工意見》, the *Implementation Measures for the Management of Remunerations and Business Expenditures of Leaders* 《領導人員履職待遇、業務支出管理實施辦法》 and other anti-corruption systems, issued the *"Middle-level Cadre Staff Family Members to Issue a Clean Initiative Letter"* 《中層幹部職工家屬發放廉潔倡議書》, and launched special rectification work to correct "Relying on and Seeking Benefits from Enterprises". At the same time, the Exploration & Surveying Institute also embarked on a comprehensive self-examination and self-correction campaign by following the relevant documents such as the *"2022 Offshore Corruption Control Task Division* 《2022年境外腐敗治理工作任務分工》" and the *"Negative List of Political Responsibilities for the Implementation of Party Governance* 《落實管黨治黨政治責任負面清單》", to remind all the staff to abide by the red line of discipline. In 2022, the total training hours of the Group on anti-corruption policies and procedures was 381 hours, and 12 directors, 141 management members and 995 employees participated in the trainings.

We encourage our staff to report violations of the rules and regulations via violation report mailbox, email and telephone. According to the requirements, we manage clue materials in a centralized and unified manner, establish management models such as registration, establishment of account books, and personnel accountable, so as to ensure that all the regulatory and disciplinary violations reported are properly handled. For the confidentiality of information regarding the clues, we strictly prohibit unauthorized publication of relevant information or content, to protect the rights and interests of the people involved. Moreover, the Group also obtain information on violations of regulations through supervision, disciplinary supervision, audit and tour inspection to maintain a comprehensive investigation of non-compliance and disciplinary offences. During the Reporting Period, the Group did not receive any reported cases of corruption, extortion, fraud and money laundering.

2 BUILD ON TEAM COHESION THROUGH EFFECTIVE STAFF CARE (CONTINUED)

The Exploration & Surveying Institute held the 2022 Work Conference on Comprehensive and Strict Party Governance

On 7 April 2022, the Exploration & Surveying Institute held the 2022 Work Conference on Comprehensive and Strict Party Governance (Party Building) to convey the spirit of the seventh plenary session of the twelfth Municipal Discipline Inspection Committee, conclude the work of the comprehensive and strict governance of the party in 2021, and to clarify the major tasks and requirements for the work in 2022. The deputy secretary of the Party Committee of the institute and the dean presided over the meeting, stressed that all departments and units shall seriously implement the spirit of the meeting, form a new political ecology by with a new effect of the comprehensive strict governance of the party in order to show the new work of Party members and cadres and achieve a further performance of enterprise development.



Picture : The work conference

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT

Material ESG issues addressed in this section are as follows:

Discharge and management of pollutants	Discharge and management of waste	Management of energy utilization
Management of water resource utilization	Discharge and management of greenhouse gas	Green office policy management

Beijing Urban Construction Design actively responds to the national call for green environmental protection, pays attention to climate change, insists on green office, promotes green construction, conducts environmental education, and constantly promotes the construction of ecological civilisation. We will continue to improve our environmental management system, focus on controlling our own environmental impact, take measures to reduce environmental pollution, in order to promote high quality development with green and low carbon method, and promote sustainable environmental development through practical actions, thus fulfilling our environmental protection responsibilities.

3.1 Environmental Protection Goals

The Group continues to explore green ways to reduce energy consumption and waste disposal in parallel with its business development, in order to reduce the environmental impact and carbon footprint raised. The main environmental impacts of the Group's operations come from office premises and construction sites respectively, and the main environmental impacts of office premises are air pollutant and greenhouse gas emissions from self-owned and leased office vehicles, indirect greenhouse gas emissions from purchased electricity, energy and water consumption and the office waste, etc.; while the main environmental impacts of construction sites come from atmospheric pollutant and greenhouse gas emissions from owned and leased construction machinery, indirect greenhouse gas emissions from purchased electricity, energy and water consumption, etc.; The main environmental impacts at construction sites are from air and greenhouse gas emissions from self-owned and leased construction equipment, indirect greenhouse gas emissions from purchased electricity, energy and water consumption and construction waste.

Beijing Urban Construction Design strictly abides by the relevant laws and regulations such as the *Environmental Protection Law of the People's Republic of China* 《(中華人民共和國環境保護法)》, the *Regulations on Environmental Protection Management of Construction Project* 《(建設項目環境保護管理條例)》 and other relevant laws and regulations. Strictly implement the environmental factor identification and evaluation control procedures, environmental operation control procedures and environmental monitoring and measurement control procedures in accordance with the ISO14001:2015 environmental management system, and implement corporate responsibility in environmental protection. The Group has set environmental protection targets to ensure continuous improvement in environmental performance . In 2022, the environmental protection targets, except for the reduction in consolidated energy consumption, were achieved due to the resumption of production, improved performance and the increase in environmental data due to business acquisitions..

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

During the Reporting Period, the Group has strictly complied with the following laws and regulations related to exhaust gas, greenhouse gases, discharge of pollution to water and land, and generation of hazardous and non-hazardous waste:
<i>Law of the People's Republic of China on Prevention and Control of Air Pollution</i> 《中華人民共和國大氣污染防治法》
<i>Environmental Protection Law of the People's Republic of China</i> 《中華人民共和國環境保護法》
<i>Energy Conservation Law of the People's Republic of China</i> 《中華人民共和國節約能源法》
<i>Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste</i> 《中華人民共和國固體廢物污染環境防治法》
<i>Law of the People's Republic of China on the Prevention and Control of Water Pollution</i> 《中華人民共和國水污染法》
<i>Environmental Impact Assessment Law of the People's Republic of China</i> 《中華人民共和國環境影響評價法》
<i>Regulations on Environmental Protection Management of Construction Project</i> 《建設項目環境保護管理條例》
and other national laws and regulations

Table: Environmental protection goals

<ul style="list-style-type: none"> • Implementing garbage classification and recycling at office spaces with legal disposal rate of hazardous waste reaching 100%; • Ensuring that the sewage, dust and solid waste discharged meet the standards, preventing major environmental pollution accidents at construction sites, and handling the waste according to the principles of recycling, harmlessness and reduction to avoid waste of resources; • Achieving zero major environmental incident, with waste water, exhaust gas, air pollutant emission and noise control meeting local requirements; • Year-on-year reduction in combined energy consumption, saving 60.23 tonnes of standard coal per year compared to the previous year.
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3.2 Climate Change

Beijing Urban Construction Design closely monitors global climate change trends and the impact of climate change on our business. To address the challenges from climate risks, we regularly identify and analyse climate risks and opportunities in our own operations with reference to the information disclosure framework prepared by our Working Group on Climate Related Financial Disclosure (TCFD). By regularly identifying and analyzing climate risks and opportunities in operations, Beijing Urban Construction Design formulates plans and measures to address climate risks, enhance our ability to cope with the risks of extreme weather and climate events, and lay the foundation for the Group's steady progress towards a low-carbon transformation.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

UCD's Identification of and Response to the Risks of Climate Change		
Risks of climate change	Potential impact	Countermeasures
Physical risks	Acute risks	<ul style="list-style-type: none"> Emphasizing safety management and risk prevention during the construction process, purchasing insurance for relevant personnel, equipping with safety equipment, and paying attention to the health impact caused by physical climate risks; Formulating detailed emergency response plans for extreme weather and conducting regular maintenance of construction equipment. In 2022, the Group formulated the "2022 Flood Prevention Work Plan (《2022年防汛工作方案》)" to achieve "one plan for one project" to eliminate potential risks of flood hazards in a timely manner and improve the flood prevention capability of the Group's various projects; The Group fully considers the physical risks of climate change in project management, engineering construction and daily office operation, and strictly follows the requirements of the Group's emergency management measures. On the one hand, the Group tests the equipment in advance according to the weather forecast and on the other hand, under extreme weather conditions such as extreme rainfall, floods and typhoons, the Group immediately organizes waterlogging prevention work and emergency drainage work to reduce the impact of extreme weather on construction; Production units carry out random safety checks or cooperate with safety checks carried out by higher authorities according to the progress of work or seasonal weather conditions.
	Chronic risks	

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

UCD's Identification of and Response to the Risks of Climate Change			
Risks of climate change	Potential impact	Countermeasures	
Transmission risks	Policy risks	<p>The government will issue more and more documents related to climate change and refine the management requirements for the industry. In 2021, the Ministry of Ecology and Environment, the State Council and other departments issued policies such as the <i>Guiding Opinions on Coordinating and Strengthening the Work Related to Addressing Climate Change and Ecological Environmental Protection</i> 《關於統籌和加強應對氣候變化與生態環境保護相關工作的指導意見》, the <i>Action Plan for Carbon Peaking Before 2030</i> 《2030年前碳達峰行動方案》, the <i>Guiding Opinion on Accelerating the Establishment and Improvement of Green, Low-Carbon and Circular Economic Development System</i> 《關於加快建立健全綠色低碳循環發展經濟體系的指導意見》 and the <i>Administrative Measures for the Trading of Carbon Emission Right (Trial)</i> 《碳排放權交易管理辦法(試行)》. In 2022, the government also issued the <i>National Climate Change Adaptation Strategy 2035</i> 《國家適應氣候變化戰略2035》 and the <i>Implementation Plan for Carbon Peaking in the Industrial Sector, the Implementation Plan for Synergistic Effect of Pollution and Carbon Reduction</i> 《減污降碳協同增效實施方案》. With the successive implementation of these systems and management requirements, the Group will face higher policy compliance risks.</p>	<ul style="list-style-type: none"> • Considering climate change factors in the stages of project investment, material procurement, and construction; • Increasing the investment in green construction and safety assurance for rail construction and expansion projects, and continuously enhancing safety assurance capabilities to withstand long-term climate change and climate disasters; • Setting short-, medium- and long-term carbon peaking and carbon neutrality goals and strategies, regularly disclosing the progress of GHG emission reduction goals, and continuously optimizing the methods for GHG emission reduction;
Opportunities	Opportunities arising from climate change	<p>Climate change will promote the sustainable transformation of transportation. As one of the green travel methods, subways will be developed by more and more cities, which will bring business opportunities to the Group.</p>	<ul style="list-style-type: none"> • Comprehensively enhancing the technical and management capabilities of the Group to capture development opportunities.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

3.3 Green Office

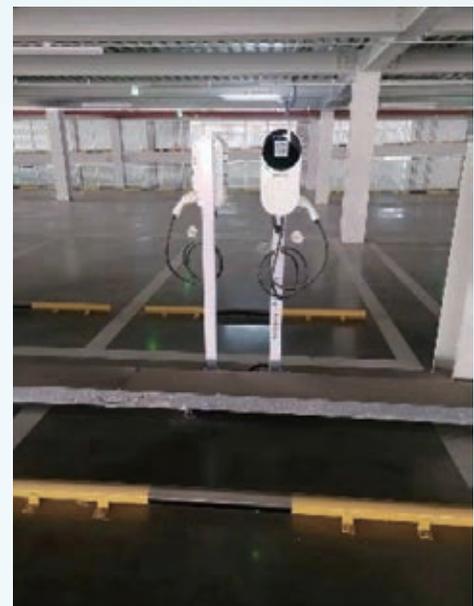
Adhering to the concept of “green office, resources conservation,” UCD has developed a series of green office policies and has promoted a low-carbon office environment by advocating for staff to conserve energy and resources in their daily work processes and implementing paperless offices.

The Group's Green Office Policies	
The Institute	<i>Environmental Management Plan</i> 《環境管理方案》
	<i>Measures for Management of Energy and Resource Conservation of the Headquarters</i> 《公司能源資源節約管理辦法》
	<i>Measures for Management of Energy and Resource Conservation of Branches</i> 《分院能源資源節約管理辦法》
	<i>Waste Sorting Instruction Manual</i> 《垃圾分類工作指導手冊》
Exploration & Surveying Institute	<i>Internal and External Environment Control Procedures</i> 《內外部環境控制程序》
	<i>Green Office Management System</i> 《綠色辦公室管理制度》
	<i>Office Environment, Occupational Health and Safety Operation Control Procedures</i> 《辦公區域環境、職業健康安全運行控制程序》
	<i>“Green Office” Proposal of Exploration & Surveying Institute</i> 《勘測院「綠色辦公」倡議書》
Rail Company	<i>Measures for Energy Conservation and Emission Reduction in Offices of Beijing Urban Rail Transit Construction Engineering Co., Ltd.</i> 《北京城建軌道交通建設工程有限公司機關辦公區節能減排措施》

Highlights of Green Office Initiatives	
Save electricity	<ul style="list-style-type: none"> • Use natural lighting in priority in corridors in office buildings to reduce the office electric lighting state; carry out energy-saving propaganda, post energy-saving signs, and guide employees to turn off the lights when leaving; switch off lighting and equipment during non-working hours • Actively promote energy-saving lighting technologies such as solar lamps • Purchase office equipment with energy efficiency labels in priority, and turn off unused office equipment in real-time after getting off work • Save electricity consumed by air conditioners, and make full use of natural ventilation; strictly implement the setting standards for indoor air-conditioning temperature to be higher than 26℃
Improve water efficiency	<ul style="list-style-type: none"> • Strengthen the inspection, maintenance and rectification of the water pipe network and water supply equipment, regularly inspect, examine and replace the aging water supply pipelines and equipment, and strictly prohibit the phenomenon of evaporating, emitting, dripping or leaking water and long-running water • Reduce the water output of the faucets, advocate energy saving and water saving, and put up water-saving publicity signs around the water switches • Install sensor faucets in bathrooms to reduce water waste • Encourage the use of phosphorus-free detergents and degradable cleaning products as much as possible to protect water resources and reduce water pollution

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

Highlights of Green Office Initiatives	
Reduce waste	<ul style="list-style-type: none"> • Store, recycle and label waste by type, and sign transportation agreements with professional third parties • Carry out the activity of "garbage classification, a duty in front of garbage cans (垃圾分类·桶前值守)" for the removal and handling of kitchen waste • Recycle hazardous waste (such as batteries, toner cartridges, ink cartridges, etc.) on a centralized basis • Require toner cartridges and ink cartridges trade-in collection to ensure 100% recovery rate
Optimize resource utilization	<ul style="list-style-type: none"> • Advocate a paperless office, make full use of an online office platform to publish information and transmit data, or reduce the copy paper by circulating documents • Promoting paperless field measurement • Try front-back printing as much as possible, and advocate the recycling of paper used single-side when printing and copying; set up a waste paper recycling box in our office to encourage employees to recycle office paper • Promote the use of recycled paper, pens with replaceable cores, toner cartridges, rechargeable batteries and other recyclable items
Green travel	<ul style="list-style-type: none"> • Continuously improve the driving skills of drivers, strengthen vehicle maintenance, and reduce abnormal wear and tear of vehicle parts • Installation of electric vehicle charging stations in office areas to encourage low-carbon travel among staffs • Advocate for walking or biking and buy vehicles with low gas consumption • Make use of electronic means, such as the Internet, telephone, video conference, etc., to reduce unnecessary travel • Arrange suitable vehicles for group business activities to reduce air pollution



Picture: Electric vehicle charging station

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

3.4 Green Construction

The Group strictly abides by the *Environmental Impact Assessment Law of the People's Republic of China* (《中華人民共和國環境影響評價法》) and *Regulations on Environmental Protection Management of Construction Project* (《建設項目環境保護管理條例》) and other relevant laws and regulations, and has internally formulated a series of green construction policies and methods to strictly manage the waste water, waste gas and solid waste generated during the construction process, and utilization of energy resources.

The Group's Policies for Green Construction	
The Institute	<i>Environmental Protection Inspection System</i> (《環境保護檢查制度》)
	<i>Waste Oil Treatment Solution</i> (《廢油處理方案》)
	<i>Special Emergency Response Plan for Waste Oil Pollution Incidents</i> (《廢油污染事故專項應急預案》)
Exploration & Surveying Institute	<i>Control Procedures for the Identification and Evaluation of Environmental Factors and Hazardous Sources</i> (《環境因素和危險源辨識與評價控制程序》)
	<i>Construction Site Environment and Occupational Health Operational Control Procedures</i> (《施工現場環境和職業健康運行控制程序》)
	<i>Solid Waste Management System (Provisional)</i> (《固體廢棄物管理工作制度(暫行)》)
Rail Company	<i>Green Construction Management Plan of Beijing Urban Rail Transit Construction Engineering Co., Ltd.</i> (《北京城建軌道交通建設工程有限公司綠色施工管理方案》)
	<i>Building Site Environmental Protection Plan of Beijing Urban Rail Transit Construction Engineering Co., Ltd.</i> (《北京城建軌道交通建設工程有限公司施工現場環境保護管理方案》)

UCD actively practices green construction. Before the construction of the project, the Group strengthened the management and supervision of the entire construction project, refined the implementation steps and carried out environmental impact assessment and biodiversity assessment to minimise the potential impact of the construction on the ecological environment and provide favourable conditions for green construction. During the project construction, the Group made inspection and improvement plans for the operating environment of the process and conducted regular supervision and inspection of the implementation, so as to continuously improve the operation of the construction process through evaluation and improvement. In 2022, the Group did not have any incident of notification or punishment caused by green construction management issues, and the green construction rate was 100%.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

Management Measures for Construction Environment	
Air pollution and dust control	<ul style="list-style-type: none"> • Strengthen construction management, equip the construction site with corresponding sprinkler facilities, and take spraying and sprinkling measures during the construction process to keep the soil surface moist and prevent dust generation • Store powdery materials in closed containers and covered piled materials that are prone to dust • Require to use of clean fuels such as liquefied petroleum gas for the boilers and stoves on construction sites • Optimize the project progress and the deployment of vehicles, and conduct annual inspections on construction machinery and vehicles to ensure that their exhaust emissions meet environmental protection requirements • Promote the application of air energy, and use thermal energy in the air as an energy source to reduce emissions • Fuel-burning installations are equipped with exhaust gas purification devices to reduce the amount of air pollutants produced
Water pollution control	<ul style="list-style-type: none"> • Set up corresponding treatment facilities for different types of sewage to ensure that the sewage must be treated and comply with relevant regulations before it can be discharged into designated sewage pipelines • Monitor the water quality of sewage to ensure that the sewage discharged meets the standards • When groundwater is recharged, water extracted from the ground and treated water that conforms to the water quality requirements are used wherever possible • The floors of the paint and fuel storage rooms at construction sites are covered with a waterproof layer, and oil leakage is effectively managed to prevent water pollution caused by oil leakage
Hazardous construction waste control	<ul style="list-style-type: none"> • Improve the construction quality and reduce the production of wastes by accurately placing materials on the construction site so as to avoid the impact on the environment caused by improper disposal of hazardous wastes • Strengthen and improve the management system for hazardous waste, and formulate emergency plans

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

Management Measures for Construction Environment	
Non-hazardous construction waste control	<ul style="list-style-type: none"> • Classify non-hazardous wastes such as construction waste and domestic waste generated on the construction site to ensure timely cleaning and disposal of relevant waste • Promote integrated box houses instead of traditional temporary housing and use steel boxes instead of concrete pavements • Develop a construction waste reduction plan to “leave the site clean after work” • Reuse rubbles and waste earth and stones through landfilling and paving • Waste concrete with support removed is used as concrete aggregate for backfill, with the reinforced steel pipes recycled
Noise control	<ul style="list-style-type: none"> • Regularly measure noise on-site every month, and complete <i>the Original Record of Noise Measurement at Construction Site Boundary</i> (《施工場界雜訊測定原始記錄》) and <i>the Report on the Noise Measurement at Construction Site</i> (《施工現場雜訊測定報告》) • Use low-noise and low-vibration devices and take sound and vibration isolation measures (e.g., soundproof enclosure) to avoid or mitigate construction noise and vibration • Tighten up the monitoring and management of construction site noises, improve excessive construction site noises in a timely manner, and avoid noise pollution caused to local residents • Forbid honking of vehicles transporting materials and solid waste on construction sites

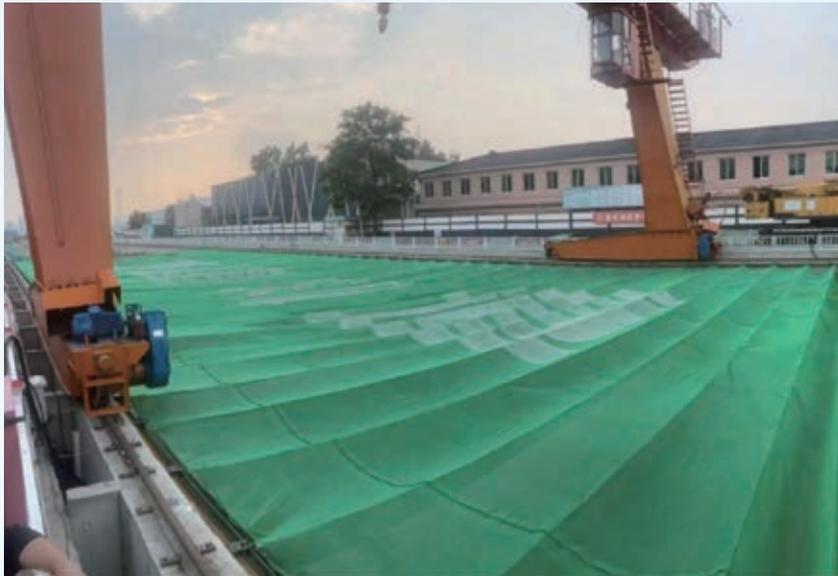
3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)



UCD's efforts in promoting the building of "Smart Greening"

UCD has been actively reengineering and optimizing construction equipment in order to promote the construction of smart construction sites and enhance its green building capacities. In 2022, the Group promoted and applied various smart practices at construction sites, such as "multi-functional and multi-disciplinary electric ceiling" and "automatic sprinkler system for foundation pit's ring field."

- Multi-functional and multi-disciplinary electric ceiling: In the earthwork operation area, a "ceiling" system comprising steel columns, steel wire ropes, motors, and dust proof nets is set up and can be turned on and off automatically, replacing the traditional practice of manually placing dense mesh to cover dust, thereby achieving the effect of shielding dust.
- Automatic sprinkler system for foundation pit's ring field: An automatic sprinkler system is used in the surrounding area of the foundation pit to meet the characteristics of wet operations around the foundation pit and at the bottom of the foundation pit under the top beam where dust can easily generate. To this end, the automatic sprinkler control system is linked with an on-site dust monitoring system through a wireless receiving module to effectively control dust and dust density.



Pictures: Multi-functional and multi-disciplinary electric ceiling (L)
Automatic sprinkler system for foundation pit's ring field (R)

In order to conserve resources and energy as much as possible, the Group has made systematic planning on reducing the energy consumption of equipment manufacturing and has formulated and improved the "energy conservation and emissions reduction measures for equipment manufacturing" to encourage operators to fulfil specific work requirements for energy conservation and emissions reduction during their operations.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

Table: Energy conservation measures for equipment

- Conduct an overall evaluation of currently-used or proposed machinery, select new and advanced equipment that is energy-saving and environmentally-friendly, and phase out or restrict old machinery and equipment that are in poor condition and have high energy consumption;
- Keep good daily maintenance of machinery, maintain equipment in good technical condition, reduce leakage and prevent operating machinery with defects, thereby reducing energy consumption;
- Promote the application of new electricity-saving products such as frequency converters and soft starters;
- Popularize the use of more efficient and energy-saving transformers and motors of new types to achieve good energy-saving effects;
- Choose to use energy-saving lamps that meet the standards for the workplace to reduce the power consumption of electric lighting.



Use air energy equipment to replace traditional air conditioner by the Rail Company

In 2022, during the construction of Lot 05 of Beijing Subway Line 22, the Rail Company used air energy equipment in replacement of traditional air conditioners for cooling and heating which reduced considerable energy consumption from the use of equipment, controlled energy consumption at source, promoted the utilization of energy in a more reasonable and comprehensive manner, and significantly improved the level of on-site green construction.



Picture: Utilization of air energy equipment

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

3.5 Environmental Education

It is the firm belief of UCD that strengthening ecological environment publicity and education is both an important measure to enhance employees' awareness of conservation, environmental protection, and ecology, and an important form of spreading ecological culture. In terms of daily office work, the Group has formulated the *Management Measures for Energy and Resource Conservation in the Headquarters* (《總部能源資源節約管理辦法》) to promote environmental protection and energy conservation education for employees. It organized and carried out various education activities with the themes of energy conservation and consumption reduction in methods, including skills training, skills competitions, visits and learning. In terms of construction, the Group regularly conducts activities in relation to the publicity, learning, and implementation of green construction for construction site operators to ensure that employees can reduce the negative impact of construction activities on the environment through their application of scientific management and green energy-saving technologies during the construction process. In 2022, the Company organized energy-saving education and training for employees on a regular basis to strengthen daily supervision, realizing an employee training coverage rate of 100%.



UCD's "Attended Bin (桶前值守)" and online Q&A activities

In 2022, UCD adhered to the working principles of "comprehensive promotion, hierarchical implementation, strict standards, and long-term maintenance" and carried out "Attended Bin" and online Q&A activities with a total of 2,646 employees being participated in. Through this themed activity, both of employees' awareness of waste classification and their environmental responsibility were enhanced. In addition, we have used various forms such as bulletin boards, electronic screens, and Apps to promote waste classification, pushing forward waste classification from "setting benchmarks and establishing models" to the next level in a comprehensive manner. The Group conducted a special inspection on waste classification in 9 office areas of the headquarters and 11 affiliated companies, and implemented the rectification of 17 issues, with a rectification rate of 100%.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

3.6 Environmental Performance

In 2022, we collected environmental data of the headquarters of UCD and its 4 projects and 47 branches, the headquarters of Rail Company and its 10 projects, and the headquarters of Exploration & Surveying Institute and its 15 branches during the Reporting Period. Since the number of construction projects for the Group in 2022 has increased compared to the statistical scope of the report in 2021, and the number, type, construction period and construction stage of construction projects will lead to differences in data calibers, some environmental data are significantly different as compared to 2021. The Group will continue to push forward and improve the recording and management of environmental data in the future.

Indicator	Unit	2022	2021	2020
Table Total Air Pollutant Emission⁴				
NOx	kg	39,575.76	16,999.75	15,000.36
SOx	kg	107.81	33.05	96.09
CO	kg	4,656.83	9,046.10	22,084.46
PM10	kg	190.65	537.52	1,186.7

⁴ Air pollutant emissions are mainly from exhaust emissions of owned and leased vehicles and leased engineering machinery owned and controlled by the Group and the emissions of natural gas and liquefied petroleum gas used. The specific emission data is calculated by referring to the *Technical Guide for Air Pollutant Emission Inventory for Road Vehicles (Trial)* 《道路機動車大氣污染物排放清單編製技術指南(試行)》, 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 Ecology and Environment of the People's Republic of China and the *First National Survey of Pollution Sources on Urban Waste Source Discharge Coefficients Handbook* 《第一次全國污染源普查城鎮生活源產排污係數手冊》.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

Indicator	Unit	2022	2021	2020
Resource Consumption and Intensity				
Total Energy Consumption ⁵	MWh	33,532.90	24,343.91	17,981.55
Total Energy Consumption Intensity	MWh/person	9.22	6.93	4.84
Total Electricity Consumption	10,000 kWh	2,834.40	1,969.57	2,008.60
Intensity	kWh/person	7,793.25	5,609.71	5,409.64
Total Natural Gas Consumption	10,000 m ³	55.01	16.86	10.81
Intensity	m ³ /person	151.24	48.02	29.12
Total Liquefied Petroleum Gas Consumption	10,000m ³ – gas	3.09	3.65	3.51
Intensity	m ³ – gas/person	8.50	10.39	9.46
Diesel Consumption	liter	130,889.00	379,878.90	1,011,051.52
Intensity	liter/person	35.99	108.20	272.30
Gasoline Consumption	liter	1,139,260.07	1,094,342.04	737,702.62
Intensity	liter/person	313.24	311.69	198.68
Office Paper Consumption	tonne	129.68	100.93	110.26
Office Paper Consumption Intensity	kg/person	35.66	28.75	29.70
Total Water Consumption	10,000 tonne	52.17	42.53	38.74
Total Water Consumption Intensity	tonne/person	143.43	121.13	104.32

⁵ The following direct energy was calculated by converting the raw data into MWh, and its calculation and relevant conversion factors were referred to the *Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions of Other Industrial Enterprises (Trial)* 《(工業其他行業企業溫室氣體排放核算方法與報告指南(試行))》 issued by the National Development and Reform Commission of China and *Gasoline for Motor Vehicles* GB 17930-2016 《(車用汽油)》 (GB 17930-2016)) and *Diesel Oil for Motor Vehicles* GB 19147-2016 《(車用柴油)》 (GB 19147-2016)) issued by General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China and Standardization Administration of China.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

Indicator	Unit	2022	2021	2020
Greenhouse Gas Emissions and Intensity⁶				
GHG Emissions of Scope 1	tonnes of CO ₂ equivalents	4,296.85	4,072.64	5,167.62
GHG Emissions of Scope 2	tonnes of CO ₂ equivalents	16,456.27	14,053.84	18,176.92
Total Greenhouse Gas Emissions	tonnes of CO ₂ equivalents	20,753.12	18,126.49	23,344.54
Total Greenhouse Gas Emissions Intensity	tonnes of CO ₂ equivalents/person	5.71	5.16	6.29
Total Hazardous Waste Produced and Intensity				
Total Waste Batteries Produced	kg	491.97	242.88	39.74
Intensity	kg/person	0.14	0.07	0.01
Waste Fluorescent Lights	piece	1,518	1,161	1,040
Intensity	piece/person	0.42	0.33	0.28
Total Waste Printer Cartridges Produced	piece	2,682	2,128	3,106
Intensity	piece/person	0.74	0.61	0.84
Total Waste Chemicals Produced	kg	9.40	12.10	21.09
Intensity	kg/person	0.003	0.003	0.01

⁶ GHG emissions of Scope 1 are derived from the exhaust emissions of self-owned and leased vehicles and leased construction machinery owned and controlled by the Group, the GHG emissions from the consumed refrigerants, and the GHG emissions from the natural gas and liquefied petroleum gas used by the Group. The specific emission data has been calculated with reference to the Fifth Assessment Report issued by IPCC, the *Guidelines for Accounting and Reporting of Greenhouse Gas Emissions of Land Transportation 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 Ecology and Environment of the People's Republic of China, and the *Guidelines for Accounting and Reporting of Greenhouse Gas Emissions of Enterprises in Other Industrial Sectors (Trial)* 《(工業其他行業企業溫室氣體排放核算方法與報告指南(試行))》 issued by the National Development and Reform Commission of the People's Republic of China.

3 ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION, HARMONIOUS DEVELOPMENT (CONTINUED)

Indicator	Unit	2022	2021	2020
Total Non-hazardous Waste Produced and Intensity				
Office Garbage Produced	tonne	814.04	700.74	241.35
Office Garbage Recycled	tonne	709.80	620.61	109.96
Household Garbage Produced	tonne	1,165.46	595.56	308.85
Household Garbage Recycled	tonne	747.97	319.38	141.40
Construction Waste Produced	tonne	7,163.23	2,678.62	700.15
Construction Waste Recycled	tonne	2,918.66	871.23	506.31
Experiment Waste Residue Produced	tonne	100.45	71.90	80.03
Experiment Waste Residue Recycled	tonne	39.57	70.40	17.41
Total Non-hazardous Waste Produced	tonne	9,243.18	4,046.82	1,330.37
Intensity	tonne/person	2.54	1.15	0.36

With the support of the energy conservation and emission reduction management system, the Group has not achieved significant growth in water, electricity and natural gas consumption and greenhouse gas emissions for three consecutive years through the implementation of resource and energy conservation management policies and a series of energy conservation measures despite the year-on-year expansion of its staff and business scale.

4 GIVING BACK TO THE COMMUNITY THROUGH CHARITABLE UNDERTAKINGS

The section mainly replies to the following major ESG issues:

Contributions to the development of the community

Maintenance of community relationships

During the last year, UCD had always kept in mind its original intention and had never forgot to give back by organizing a series of social welfare activities in various fields, being committed to rural revitalization, care for disadvantaged groups, and disaster relief, as well as striving to share its own resources with the society and contributing to improving people’s livelihood and building a harmonious society. In 2022, the Group invested a total of RMB108,000 in public welfare projects and 2,002 hours in volunteer activities.

4.1 Rural Revitalization

In active response to the nation’s call to fulfill the responsibilities as a state-owned enterprise, the Group has been proactive in joining the development and building of rural areas and has, by leveraging the reasonable development and utilization of local resources, promoted the effective match and connection between targeted poverty alleviation and rural revitalization, helping local residents realize the goal of common prosperity.



The Group conducted the “Spreading Warmth to Rural Area (將溫暖送達鄉村)” activity

In January 2022, the Group sent delegates to Chenggezhuang Village where they visited and consoled 10 households in difficulties and some elderly with health issues, delivering care and warmth to those villagers. With focus on assisting less-capable villages in the collective economy, UCD conducted in-depth research, fully leveraged the advantages of land policies, explored and cultivated industries, and gave full play to the intellectual advantages of the “first secretary” stationed in the village who has strong party spirit, familiarity of policies, and extensive knowledge, continuously bringing new ideas to the development of Chenggezhuang Village, and ceaselessly making urban construction efforts to assist rural revitalization.



Picture: “Spreading Warmth to Rural Area (將溫暖送達鄉村)” activity

4 GIVING BACK TO THE COMMUNITY THROUGH CHARITABLE UNDERTAKINGS (CONTINUED)

4.2 Fight Against the Pandemic

In 2022, for the areas heavily hit by the pandemic across the country, the Group requested all branches to strictly comply with the various epidemic prevention and control requirements of local governments and two-level groups and to act swiftly and actively in joining the battle of epidemic prevention and control. By actively leveraging our own advantages, we coordinated and allocated human and material resources, timely provided relevant materials and volunteer services to local pandemic headquarters, and helped local governments and all sectors of the society win the battle against the pandemic.



Fought against the pandemic and cherished all goodness together

Since the outbreak of the pandemic, in the face of front-line strain and personnel shortage, the Chongqing Branch of the Exploration & Surveying Institute (勘测院重庆分院) has called on employees to work from home and employees in temporary control areas to actively report to their communities or to become volunteers in local communities, obey the unified command and dispatching of the street and community, work together to prevent and control the epidemic, and try their best to play a role in and contribute to the battle.



Picture: The volunteer services team from the Exploration & Surveying Institute

ANNEX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE

Subject Areas	Aspects	Key Performance Indicators (KPIs)	Where the disclosure can be found
Environment			
A1: Emissions	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.	3 Energy Conservation and Environmental Protection, Harmonious Development
	A1.1	The types of emissions and respective emissions data	3.6 Environmental Performance
	A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	3.6 Environmental Performance
	A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	3.6 Environmental Performance
	A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	3.6 Environmental Performance
	A1.5	Description of emissions target(s) set and steps taken to achieve them	3.1 Environmental Protection Goals
	A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them	3.3 Green Office 3.4 Green Construction

ANNEX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

Subject Areas	Aspects	Key Performance Indicators (KPIs)	Where the disclosure can be found
A2: Use of Resources	General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	3 Energy Conservation and Environmental Protection, Harmonious Development
	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)	3.6 Environmental Performance
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility)	3.6 Environmental Performance
	A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them	3.3 Green Office 3.4 Green Construction
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them	3.3 Green Office 3.4 Green Construction
	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	N/A (the Group's businesses do not involve the production of any products).
A3: The Environment and Natural Resources	General Disclosure:	Policies on minimising the issuer's significant impacts on the environment and natural resources.	3 Energy Conservation and Environmental Protection, Harmonious Development
	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	3 Energy Conservation and Environmental Protection, Harmonious Development
A4: Climate Change	General Disclosure	Policies on identification and mitigation of mitigation measures related to significant climate-related issues which have impacted, and those which may impact, the issuer	3.2 Climate Change
	A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them	3.2 Climate Change

ANNEX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

Subject Areas	Aspects	Key Performance Indicators (KPIs)	Where the disclosure can be found
Social			
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.	2 Build on Team Cohesion through Effective Staff Care
	B1.1	Total workforce by employment type, age group and geographical region	2.1 Talent Management
	B1.2	Employee turnover rate by age group and geographical region	2.1 Talent Management
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.	1.2 Work Safety
	B2.1	Number and rate of work-related fatalities occurred in each of the past three years	1.2 Work Safety
	B2.2	Lost days due to work injury	1.2 Work Safety
	B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored	1.2 Work Safety
B3: Development and Training	General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	2.2 Craftsmanship
	B3.1	The percentage of employees trained by employee category (e.g. senior management, middle management)	2.2 Craftsmanship
	B3.2	The average training hours completed per employee by employee category	2.2 Craftsmanship

ANNEX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

Subject Areas	Aspects	Key Performance Indicators (KPIs)	Where the disclosure can be found
B4: Labour 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 labour.	2.1 Talent Management
	B4.1	Description of measures to review employment practices to avoid child and forced labour	2.1 Talent Management
	B4.2	Description of steps taken to eliminate such practices when discovered	2.1 Talent Management
B5: Supply Chain Management	General Disclosure	Policies on managing environmental and social risks of the supply chain.	1.5 Supplier Management
	B5.1	Number of suppliers by geographical region	1.5 Supplier Management
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored	1.5 Supplier Management
	B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	1.5 Supplier Management
	B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	1.5 Supplier Management

ANNEX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

Subject Areas	Aspects	Key Performance Indicators (KPIs)	Where the disclosure can be found
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, labelling and privacy matters relating to products and services provided and methods of redress.	As the Group's businesses do not involve the production of any products, matters related to product labelling do not apply to the Group. Other matters related to product responsibility have been disclosed by the Group in 1.3 Service Quality.
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	1.3 Service Quality
	B6.2	Number of products and service related complaints received and how they are dealt with	1.3 Service Quality
	B6.3	Description of practices relating to observing and protecting intellectual property rights	1.4 Encourage Innovation
	B6.4	Description of quality assurance process and recall procedures	1.3 Service Quality
	B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored	1.3 Service Quality
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 bribery, extortion, fraud and money laundering.	2.3 Anti-corruption
	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	2.3 Anti-corruption
	B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored	2.3 Anti-corruption
	B7.3	Description of anti-corruption training provided to directors and staff	2.3 Anti-corruption

ANNEX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE (CONTINUED)

Subject Areas	Aspects	Key Performance Indicators (KPIs)	Where the disclosure can be found
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.	4 Giving Back to the Community through Charitable Undertakings
	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	4 Giving Back to the Community through Charitable Undertakings
	B8.2	Resources contributed (e.g. money or time) to the focus area	4 Giving Back to the Community through Charitable Undertakings



北京城建设计发展集团股份有限公司

BEIJING URBAN CONSTRUCTION DESIGN & DEVELOPMENT GROUP CO., LIMITED