

ENVIRONMENTAL SOCIAL & GOVERNANCE REPORT 2018

ENVIRONMENTAL
SOCIAL
& GOVERNANCE
REPORT 2018



中國地熱能產業發展集團有限公司

CHINA GEOTHERMAL INDUSTRY DEVELOPMENT GROUP LIMITED

Incorporated in the Cayman Islands with limited liability

Stock Code: 8128

Table of Content

I. About this Report	2
II. Company Overview	4
III. Chairman's Statement	5
IV. Stakeholders' Participation and Materiality Assessment	7
V. Environmental	9
Green Industry	9
Green Construction	10
Green Office	12
Key Performance Indicators	13
VI. Social	14
(1) Employment and Labour Practices	14
Employment, remuneration and welfare	14
Employees' health and safety	15
Development and training for employees	16
Labour standards	17
(2) Operating Practices	18
Supply Chain Management	18
Product Responsibility	19
Protection of Intellectual Property Rights	19
Anti-corruption	20
Community Investment	20
Key Performance Indicators	22

I. About this Report

This Report is the third Environmental, Social and Governance report (the "Report") of China Geothermal Industry Development Group Ltd. (the "Company") together with its subsidiaries (the "Group" or "we"). This report presents information regarding our management approach, strategies, goals and progress on environmental, social and governance issues. This report has been prepared in both Chinese and English and has been published on the websites of the Stock Exchange and the Company. If there is any discrepancy between the Chinese and English versions, the Chinese version shall prevail.

➤ Scope Covered

This report focused on the Group's operations related to the principle business of the development and utilization of geothermal energy as alternative energy for building heating (cooling) and also covered the headquarters of Hong Kong and business headquarters in Beijing. This report covering the period from January 1, 2018 to December 31, 2018. At present, some domestic operating units outside Beijing, China, are not included in this report for the time being which was mainly because some operating units only accounted for a relatively small portion of our overall business. The Company will continue to strengthen the disclosure and will develop a plan to cover the scope of the report to these operating units.

➤ Compilation basis

This report is prepared in accordance with the relevant provisions of the "Environmental, Social and Governance Reporting Guidelines" in Appendix 20 of the Rules Governing the Listing of Securities on the GEM of The Stock Exchange of Hong Kong Limited, and with consideration of the key concerns of the Company's stakeholders and the Company's business characteristics.

➤ Approval and Release

This report was approved by the board of directors and was released on 28 June 2019.



2018 Environmental, Social and Governance Report

➤ Feedback

If you have any comments or questions about the contents of this report, please feel free to contact us by the following means:

Address: Room 3709-10, 37/F, The Centre, 99 Queen's Road Central, Central, Hong Kong

Phone: 852-37539800

Email: info@cgsenergy.com.hk

II. Company Overview

China Geothermal Industry Development Group Limited(hereinafter referred as “the Company”) is the sole listed company in Hong Kong engaged in the research and promotion of the development and utilization of geothermal energy as alternative energy for building heating (cooling). The Company through Ever Source Science & Technology Development Group Co., Ltd (hereinafter referred to as “HYY Company”), the industrial operation headquarters in Beijing, is committed to the industrialization development of the original technology which can accelerate the all-around upgrade and transformation of the traditional heating industry with combustion, emissions and pollution to an emerging industry of combustion-free integrated heating and cooling system with shallow geothermal energy.

HYY Company is a high-tech enterprise incorporated in the technology park in Haidian District, Beijing in 2000. It mainly focuses in the field of energy and environmental science and is dedicated to the research and development of new renewable energy as well as engaging in research, design, production and comprehensive technical services of the promotion and development of the utilization of shallow geothermal energy.

HYY Company takes the original "single-well circulation heat exchange geothermal energy collection technology" as its core, realizes the industrialization development of original technology and owns the industrial chain operating unit integrated with technology research and development, design consultation, equipment manufacturing, engineering construction, energy contract management and system maintenance which can provide regional energy planning in different regions and provide a complete solution for heating (cooling) energy for all types of buildings, thus realizing the regional development of industrial parks of integrated heating/cooling with geothermal energy. With the support of integrated heating/cooling industrial park, research and development of collection of shallow geothermal energy and production of corresponding full set equipment can be strengthened for the different regions and climate conditions, hence achieving safe, sustainable, reliable and rapid development of regional heating with geothermal energy and ensuring to realize the strategic goal for promotion of non-combustion regional to become the most competitive company in the field of promotion of geothermal energy as alternative heating(cooling) energy.

III. Chairman's Statement

Heating in northern China is a major event concerning people's livelihood. As December 21, 2016, President Xi Jinping emphasized at the 14th meeting of the Central Financial and Economic Leading Group: the promotion of clean heating in winters of North China is a major event which is related to the warm winter for the public in the northern region, but also contributes to substantial reduction of smoggy days. This composes an important chapter of the revolution in energy generation and consumption, and the revolution of living style of rural livelihood. Facing the general secretary's entrustment, we deeply realized in the process of learning and implementation that we must continuously improve our understanding of clean heating in the northern region as well as the heating knowledge, increase scientific and technological research and development efforts, and strive to improve the share of using shallow geothermal for the clean heating in the northern part. Promoting shallow geothermal energy to become the first choice of alternative energy for northern heating by using the facts and data and actively promote the transformation of northern heating energy in the new era.

At present, the proportion of clean heating in northern China is low. In particular, bulk coal is largely used in winter in some areas and pollutants emission is high. As of the end of 2016, the total heating area of urban and rural buildings in northern China was about 20.6 billion square meters. Among them, coal-fired heating area of 17.1 billion square meters, consumes 400 million tons of standard coal per year, accounting for more than 10% of the country's total energy consumption a year. Present theory and a large number of practices prove that shallow geothermal energy is preferred as an alternative energy source for heating in the north. By provision of heating for buildings with physical changes, the heating region has no combustion and zero emissions. The cost of which is lower than that of burning coal, which will become the major force for the transformation of heating energy of the northern region and will trigger a revolution of heating energy and consumption.

The revolution in heating energy production and consumption caused by shallow geothermal heating has spawned a new era of integrated heating/cooling emerging industries, enabling northern heating to achieve "ethical" energy use: heating heat pumps and China's original single well heat exchange circulation technology

2018 Environmental, Social and Governance Report

combined with internationally-used underground pipeline heat exchange method to collect the shallow geothermal energy. Under different geological conditions, the low-temperature, low-grade shallow geothermal energy of about 10 °C can be enhanced its temperature and extracted from the underground to guarantee the room temperature at the range of 16 °C to 28 °C which can be adjusted as necessary. Therefore, it is no longer necessary to ensure the room temperature through high-temperature combustion with primary energy and electric heating of secondary energy which can avoid waste of energy grade and combustion in the heating area, thereby solving the smog caused by wasted heating energy and combustion emission so as to effectively improving the environment and contributing to the protection of the earth.

Xu Shengheng

Joint Chairman



IV. Stakeholders' Participation and Materiality Assessment

The Company believes that the participation of all stakeholders is of paramount importance to the Company's sustainable development. Therefore, we attach great importance to the needs and opinions of our stakeholders and strive to maintain multi-directional, continuous and frank communication with stakeholders through different channels and responded positively.

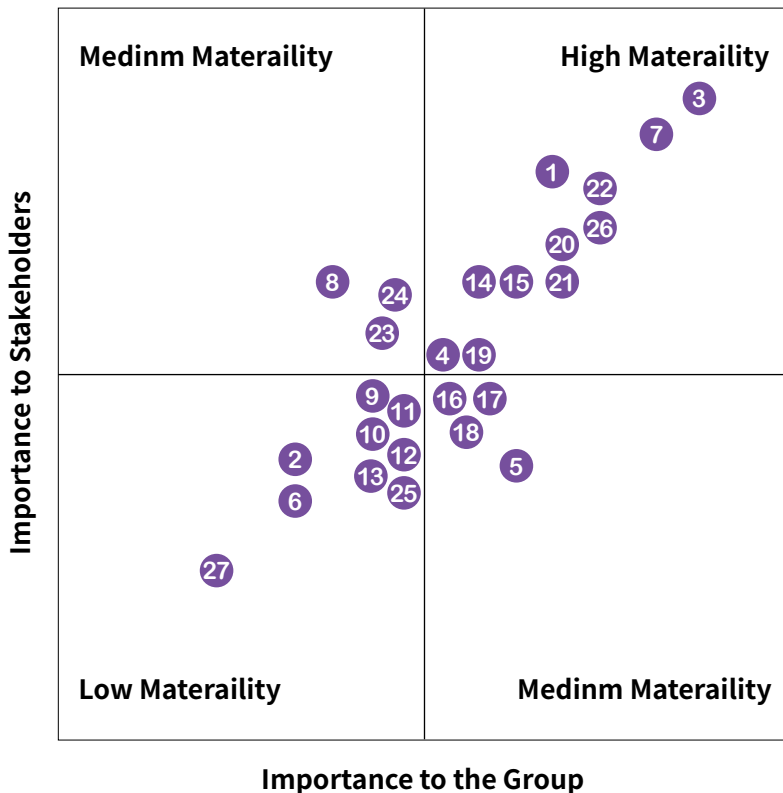
Stakeholder	Focal point	Communication method
Government departments	Compliance of rules and regulations	Participate in government meetings and receive policy documents
	Social support	Participate in the declaration of government-supported projects, etc.
	Environmental impact	Accept inspections by regulatory authorities and achieve energy conservation and emission reduction
Investors/ Shareholders	Compliance Operation Compliance	Shareholders' meetings, HKEX announcement
	Market and economic benefits	Financial report, annual report etc.
Customers	Product advantages and innovation	Network promotion and display for potential customers, etc.
	Product quality and benefits	Pre-sales, sales, after-sale services
	Client feedback	Spring and Autumn maintenance, satisfaction survey, etc.
	Protection of customer interests	Customer Service Center, 24-hour hotline
Suppliers	Transparent procurement	Develop a qualified procurement list and publish demand information
	Equal competition	Choose qualified suppliers
	Mutual benefit and win-win	Procurement by price comparison
Constructors	Project scale	Project tender notice, etc.
	Work safety	Contracts, safety agreements, regular inspection etc.
	Environmental protection requirements	Civilized construction requirements, training
Employees	Employee rights and benefits	Staff representative conference, Employee handbook
	Remuneration system	Publication and execution of remuneration system
	Training and Development	Various forms of training and promotion

2018 Environmental, Social and Governance Report

► Materiality Assessment

In order to identify the issues that stakeholders are most concerned about and to allow stakeholders to comment on our sustainability performance, we conducted materiality assessment by way of questionnaire survey, inviting internal and external stakeholders to comment on the importance of twenty-seven ESG issues to the business operations and stakeholders, among which cover labour treatment, environmental protection, operation practices, products and services and community investment etc. The assessment results are used to analyse ESG issues that are important to the Group, to summarize the importance rankings of the reported issues and to develop a materiality matrix.

Materiality Matrix



Labour Treatment	
1. Diversity and equal employment opportunity	
2. Employment relationship and staff communication	
3. Occupational safety and health	
4. Training and development for staff	
5. Prevention of child labor and forced labor	
6. Talented person retention	
7. Staff salary	
8. Staff welfare/recreational activity	
9. Employment compliance	
Environmental Protection	
10. Sewage Discharge	
11. Greenhouse gas emissions	
12. Air emissions	
13. Hazardous and non-hazardous waste treatment	
14. Saving energy and water	
15. Use of natural resources (including energy and water)	
16. Environmental protection compliance	
17. Environmental policy	
Operation Practices	
18. Supplier management	
19. Anti-corruption	
20. Disaster contingency plans	
Products and Services	
21. Quality and safety of the products	
22. After-sale service	
23. Customer satisfaction	
24. Customers' opinion and complaints	
25. Trademarks and patented technologies	
26. Protect customers' private information	
Community Investment	
27. Participation in public welfare activities	

V. Environmental

The core concept of the Group: Maintaining ecology protection responsibility awareness. It is always our responsibilities and conscience to seek for a harmonious co-existence of human and nature, improve ecological environment, promote social progress to provide quality life for the general public.

► Green Industry

The Group is committed to the promotion of geothermal energy as an alternative energy for heating (cooling) and has formed five major segments, namely intelligent heating (cooling) system engineering construction, supply of renewable energy (shallow geothermal energy), intelligent manufacturing (heating heat pump), planning and design, operation and maintenance of intelligent heating (cooling) system. At the same time, using our original single-well circulation heat exchange geothermal energy collection technology takes underground water as medium, utilizes one well and the heat transfer device in the well with semi-closed circulation loop to realize heat exchange between water and the shallow soil & sandstone to absorb heat from soil and sandstones so as to realize the dynamic balance between water pumping and recharging in energy exchange and energy collection process. Since the well water is circulated in situ, it neither consumes water nor pollutes water, does not damage the normal distribution of groundwater, and does not cause problems such as collapse of the water well and blockage of the recharge well due to sand shifting, therefore no damage to the geological structure.

The energy-saving and emission reduction effect for promotion and utilization of shallow geothermal energy for a total area of approximately 5.2424 million square meters in the three years from 2016 to 2018 are as follows:

Emission Reduction / Energy Saving Items	Unit	Data (heating per quarter)
Fuel saving	10,000 tons of standard coal	12.29
Emission reduction of CO ₂	10,000 tonnes	32.45
Emission reduction of SO ₂	tonnes	2,028.42
Emission reduction of NO _x	ton	1,917.77
Emission reduction of dust	ton	1,180.17



2018 Environmental, Social and Governance Report

➤ Green Construction

In adherence to low carbon operation to meet the purpose of emission reduction, the Company implements green construction to all projects. The company is committed to reducing the impact of its operations on the environment and is in strict compliance with relevant laws and regulations such as the "Environmental Protection Law of the People's Republic of China", "Energy Conservation Law of the People's Republic of China", "Law of the People's Republic of China on Prevention and Control of Pollutant by solid waste", "Law of the People's Republic of China on Prevention and Control of Air Pollutant", "Preventive Rules on Water Pollutants of the People's Republic of China", "Soil Conservation Law of the People's Republic of China", etc., the Company also positively advocates green office mode, reinforces the employee's concept of energy conservation and environmental protection, and adopts measures in multiple aspects to meet the object of energy conservation and emission reduction:

To comply with the Group's environmental management system, strictly implement all rules and policies of the owner and general contractor for civil engineering, conscientiously carry out ISO14001 international environment management standard and OHSAS18001 occupational health management system standard, participate in periodic meeting held for the work of "civilized construction and environmental protection on construction site", execute environmental protection management and inspection system for construction site, formulate the Group's environmental guideline, environmental objects, and environmental indexes, provide corresponding resources to prevent pollution and realize harmony between construction and environment to further meet requirements of environmental management standard.

In project construction, the Group strictly handle all emissions in strict compliance with relevant construction provisions and standards so as to reduce impact on surrounding environment; some preventive measures generally adopted in general course of project construction are listed as below:

2018 Environmental, Social and Governance Report

Type	Emission Source	Name of Pollutants	Preventive Measures
Air pollutant	Construction period	Flying dust	Set up fences in construction zone, cover the exposed part, sparkle water on the roads in construction zone, prohibit temporary and random disposal of earthwork, reinforce management and civilized construction.
	Construction period	Carbon dioxide, nitrous oxide	Use electric construction tools, not use fuel facilities as possible as it could to avoid pollutant discharge; when it is unable to use fuel equipment, adopt low-emission equipment which meets requirements of environmental protection.
	Commissioning period	Hydrofluorocarbons	Apply cooling medium with low global warming potential (GWP); all cooling medium shall be filled before the equipment delivery out of the factory to avoid leakage in filling operation on construction site.
Water pollutant	Construction period Domestic sewage	CODCr BOD5 SS Ammonia nitrogen	After treatment, discharge the pollutant to municipal sewage pipe network through compliant sewage discharge facilities.
	Construction period Washing wastewater	SS	Disallow external discharge, set up temporary sedimentation tank, recycle it for reducing dust and suppressing dust after treatment.
Solid waste		Construction solid waste	Authorize qualified disposal unit to gather and dispose the solid wastes on the basis of classification, don't abandon them randomly.
	Construction period Solid waste	Waste mud	Set up mud pit, periodically hand the waste mud to environmental sanitation department for clearing. Reasonably dispose it rather than abandon it randomly.
		Domestic garbage	Gather domestic garbage on the basis of classification, hand them to environmental sanitation department for treatment, reasonably dispose it rather than abandon it randomly.
Noise	Construction machinery and equipment		Reasonably plan construction time, formulate construction plan, select low-noise equipment and implement operation in a closed environment.



2018 Environmental, Social and Governance Report

During the process of operation, we will generate a number of direct or indirect gas emissions. The direct gas emissions mainly come from the diesel fuel used for generators and drilling rigs in the construction process and the use of refrigerants in the provision of maintenance services. The refrigerants we use are all environmentally friendly. The indirect air emissions mainly come from the purchased power, official vehicle fuel, office paper and water.

► Green office

For a long term, the Company has properly implemented purchase, use, storage, repair, allocation, stocktaking, disposal and recovery of fixed asset through fixed asset efficiency management plan, which greatly enhances utilization efficiency of fixed assets in the office and reduces resource consumption. At the same time, in the course of daily work, we advocate the employees to improve utilization efficiency of office articles, reduce and re-utilize wastes, recycle resources, repair articles and refuse purchasing products which don't meet the environmental protection concept; fully utilize office automation (OA) system and "WeChat" management system, solve problems online, simplify documentation so as to improving the flow of official documents.

In respect of energy consumption, the Company sticks to start from small things in energy conservation and emission reduction. The Company uses power saving fluorescent lamps in all offices and lighting will be used in accordance with the need. In addition, lamps are off when people leave. In respect of use of electric appliances, unused electric appliance will be shut off in time to avoid putting them on standby mode for a long time so as to reduce wasting. At the same time, electric appliance with high electricity consumption will be managed rationally, such as air-conditioner will rationally be adjusted to proper temperature in accordance with the weather condition to avoid energy wasting. Colleagues are also encouraged to save paper, save water in carrying our their daily work so as to commencing a low carbon life.

We have planted a large number of trees in the Beijing office park. We also encourage our staff to plant small potted plants indoors to help reduce emissions and enhance air quality. They can also beautify the working environment.

In 2018, the Hong Kong office obtained the "Hong Kong Green Organizations" certification, and formulated relevant energy-saving and waste-reduction measures. It committed to material saving, energy saving and waste reduction in the office environment, and assumed more environmental responsibility from the perspective of the Company.

2018 Environmental, Social and Governance Report

KEY PERFORMANCE INDICATORS

A. Environmental				
A1.1	Emissions		Unit	2018
	NOx		Kg	231.5
	Sox		Kg	0.3
	PM		Kg	21.5
A1.2	Greenhouse gas emissions			
	Scope 1 (Diesel, natural gas, gasoline, refrigerant *)		Tonnes of CO2e	6,132.1
	Scope 2 (Electricity)		Tonnes of CO2e	768.6
A1.3	Hazardous waste produced			
	Batteries		Pieces	41
	Fluorescent Tubes		Pieces	8
	Empty Ink Cartridges (Recycled)		Pieces	25
A1.4	Non-hazardous waste produced			
	General Solid Waste9 (Landfilled)	Total	Tonnes	39.3
		Intensity	Tonnes/ HK\$' 000 income	0.0001
	Paper	Total	Kg	1514.5
		Intensity	Kg/ HK\$' 000 income	0.0038
A2.1	Direct and indirect energy consumption by type			
	Diesel	Total	Liter	380,985
		Intensity	Liter/ HK\$'000 income	0.9601
	Gasoline	Total	Liter	20,577
		Intensity	Liter/ HK\$'000 income	0.0519
	Natural gas	Total	M ³	5800
		Intensity	M ³ / HK\$'000 income	0.0146
	Total Indirect Energy Consumption (Purchased Electricity)	Total	kWh	870,845
		Intensity	kWh/ HK\$'000 income	2.1947
A2.2	Water consumption			
	Total		Tonnes	19,169
	Intensity		Tonnes/ HK\$'000 income	0.0483

*The company uses refrigerants in the process of provision of maintenance services.

Due to the Hong Kong leased office, the water is controlled by the management company of the building and there is no water meter installed. Therefore, the water consumption data is not provided.

VI. Social

(1) Employment and Labour Practices

The core concept of the Group: Fully respect the employee's personal freedom, highly promote equality of personality; encourage a healthy competition of personal development, realize appointment of the employee on the basis of talent; advocate serious criticism and friendly forgiveness and establish error correction mechanism.

► Employment, remuneration and welfare

All employment of staff of the Company are complied with relevant local regulations and policies, including Employment Ordinance, Mandatory Provident Fund Schemes Ordinance and Occupational Safety and Health Ordinance, etc. for Hong Kong and the Labor Law of the People's Republic of China, Labor Contract Law of the People's Republic of China, etc. for Mainland China, as well as such internal rules and systems formulated in accordance with the law, such as the Administrative Measures for Human Resources, Staff Remuneration Management System, Administrative Measures for Employee, Overtime Management System, Employee Leave System, etc. Strictly prohibited hiring of child labor and forced labor, guarantee all labor rights of the employees by law to ensure fair, just and open selection of talented employees.

All contract employees in service have signed the labor contracts with the Company. In the process of signing, renewal, termination and cessation of the labor contract, the Company strictly complies with statutory procedures and guarantees all relevant processes are conducted in a fair, open and just manner which is not affected by sex, race or other relevant diversified factors, to actually protect legal rights and interests of the labors. The Company makes efforts to provide equal employment chance to all qualified persons in irrespective of race, complexion, religion, original nationality, disability, sex, age, marital status, etc.

The Company decides salary standard with comprehensive consideration mainly on the basis of factors, such as the average market salary standard, the employee's position level, qualifications, skills,



2018 Environmental, Social and Governance Report

performance, etc.

In accordance with provisions of the government, the Company purchases social insurance including pension, medical, unemployment, work-related injury and childbirth for contracted employees of the Group or its subsidiary companies in Mainland. The staff of the Hong Kong company has a mandatory provident fund scheme as required, and various medical and labour insurance schemes are also set up for staff.

Holidays Specified in Local Employment Place: the employee is entitled to specified paid statutory holiday, annual leave, martial leave, maternity leave, funeral leave, sick leave, work-related injury leave, leave for personal affairs, etc.

► Employees' health and safety

The Company attaches high importance to health and safety of the employee. Besides all medical insurances, work-related injury insurance specified by the State, it has established a safety management system through certification of OHSAS18001 occupational health and safety management system. On the basis of different working positions and natures, it implements safety preventive measures to the employees and periodically issues labor protective articles. In every summer, it dispenses high temperature allowance and heatstroke prevention drugs, etc to the employees who work in outdoor high-temperature environment, so as to assure health and safety of the employees, and periodically organizes employee physical examination. To guarantee a healthy and safe diet of the employees, it establishes a canteen and has obtained food safety and health permit according to requirements of food and safety standard in catering industry, and implements strict physical examination to workers in canteen to assure they work with health certificate.

The Company attaches high importance to production safety, complies and implements such laws and regulations as "Work Safety Law" and "Fire Prevention Law" of the State; signs safety responsibility statements with each departments, emphasizes each department principal is first responsible person for safety and has formulated a whole set of the "Safety Management System" and appoints Safety Director for supervision and examination of all safety work. It periodically holds safety meetings and emphasizes safety education, safety examination which effectively eliminates all safety accidents. Specific to particularity of the Company's business, in each engineering project it shall sign the "Safety Responsibility Statement", "Safety Agreement" with installation and construction enterprise, and assign special person



2018 Environmental, Social and Governance Report

for safety examination, irregular selective examination, etc in the course of engineering construction, and make timely correction upon discovery of potential safety hazards to assure production safety first and people foremost. During the year, no safety incidents occurred.

► Development and training for employees

The Company enriches all professional forces by introducing high-end talents, continuously reinforces backup talent reserve and constructs hierarchical talent teams, advances construction of learning organization and reinforces the concept of lifelong learning; provides training specifically to the employees and fully transfers them for specific task, reinforces cultivation of project management talents and technical talents. In the process of attracting talents and stabilizing teams, we have adopted flexible employment mechanism, giving full play to the the Company's resource advantage, focuses cultivation on highly-educated young people, and promotes technical backbones who are young and promising as managers and project leader.

The Company cherishes every excellent talent, motivates talents to make continued progress by performance assessment, position competition, training selection, etc. encourages and supports each employee in career development. In principle, all employees who have been working on current positions for 6 consecutive months are qualified for applying for new working chances through "Internal Employee Position Application Procedure". Department supervisor is responsible for supporting its department employee's career development, to provide backup force to its sustainable and stable development.

In adherence to the concept of joint development of the employee and the organization, the Company would continuously update knowledge structure of organization and employees, to make the employee suitable for its high-speed development. The Group also attaches high importance to employee training, and has established Hengyouyuan Vocational Training School. Besides training of professional technical talents, it also generally launches induction training, comprehensive training and professional training, etc. to the employees.

Induction training mainly covers: overview of the Group, employee manual, rules and systems, basic knowledge of earth energy and safety education, etc. It is conducted by stages, in principle, all training contents shall be completed before the new employee is transferred to be a regular employee.

Comprehensive training mainly covers: overview of the situation and tasks, organizational structure, rules and regulations, strategic policy, corporate culture, special work, product knowledge, work experience, etc.



2018 Environmental, Social and Governance Report

Professional training mainly covers: industrial standard, process specifications, design specifications, situations in technical field, solutions to puzzling questions, specific business process, etc.

Training modes mainly cover: classroom face-to-face teaching, network video teaching, self-study training, skill practice, visit etc.

Main Training Performances in 2018:

(1) There were 70 new employees. Organized new employees to take induction training in studying company profile and employee manual, safety education, etc. All the 70 employees passed examination, with a test passing rate of 100%.

(2) Organized firefighting safety knowledge training education and test, 550 person-times participated in it, with a test passing rate of 100%.

(3) Engaged the external professional accounting firm to provide training to the financial personnel and middle-level leaders of Group on the new accounting standards and norms for financial implementation, including new income standards and new financial instrument standards, construction contract project accounting such as BOT and BT project accounting, etc., 63 person-times participated.

(4) Organized various business units and marketing staff to participate in the training on bidding in order to understand the bidding process and the methods for filling in the electronic bidding documents and the matters need to pay attention with 52 person-times attendance.

(5) Organized training for staff of project company on industry standards such as "collection system acceptance system" and "waterproof cable joint production", industry standard, practical skill training with participation of 50 person-times, and the random test on the spot were passed.

(6) Cooperated with such units as municipal construction commission, municipal building association, financial bureau, labor security bureau, production safety administration bureau etc, organized pre-job training for such special work types and important positions as refrigeration installation and repair staff, internal auditor, financial staff, electrician, welder, pipe fitter, machine room on-duty staff, etc. so as to meet the Company's demand of production and work, a total of 44 person-times took the test and obtained certificates, with in-service rate with certificate meets 85%.

► Labour standards

In accordance with Labor Law of the People's Republic of China, Labor Contract Law of the People's Republic of China, relevant laws and administrative regulations, as well as local regulations in Beijing,



2018 Environmental, Social and Governance Report

the Company has prepared Employee Manual in accordance with actual situations, released and implemented it after it is passed by Congress of Workers and Staff through voting.

It is temporarily decided that Employee Manual is revised as per democratic process every 3 years. In case of changes of national regulations, local policies and the Group Company's rules and systems, the Group Company may irregularly modify this Manual to make it meet the said changes. It is an integral part of Labor Contract, applicable to all employees who have signed labor contracts with the Group and its subsidiaries, holding companies and branches.

This Manual has summarized the Group Company's culture, policies and rules and systems, etc, to make all employees work in a safe, innovative and vital working environment for a long-term through mutual compliance and execution.

(2) Operating Practices

Honest and promise-keeping operation rules: the Company's survival depends on the clients, hence, the fundamental guarantee for the company's survival and development is to realize every commitment to the clients and partners.

► Supply Chain Management

The Group Company has professional companies for designing and producing heat pump heating and cooling devices (water, ground and low-temperature air source heat pump unit), providing installation, debugging and after-sales service for set engineering of cooling devices in order to provide one-stop comprehensive service to the clients.

Principle of sustainable purchase: to guarantee stable quality of the products, the Company provides top-quality engineering and service to the clients stably, and formulates a series of management measures for purchase of production materials: Purchase Management System, Price Management System of Purchase Department, Detailed Rules for Implementation of Material Quality Inspection, etc. On the basis of honesty and cooperation, win-win and mutual benefit, the Company has established a long-term partnership with multiple suppliers who are honest and trustworthy with qualifications, stable product quality, to provide sustainably stable support to development and utilization of superficial geothermal energy.

2018 Environmental, Social and Governance Report

Management of Suppliers: the materials needed for producing the Company's products are diversified and are provided by many cooperated suppliers. To standardize supplier management, the Company has formulated the Management System for Qualified Suppliers of Purchase Department, Appraisal Specifications for Suppliers, in accordance with requirements of ISO9001 Quality Management System. The equipment, parts and materials used by the Company are provided by qualified suppliers approved by the Company. Qualified suppliers refer to those suppliers who have passed appraisal in legal operation permit, product quality, qualifications, production and supply capability, system quality management, etc. The Company prefers the enterprises which select environment friendly and energy saving products and pass environmental system certification as qualified suppliers.

► Product Responsibility

We are committed to designing and producing excellent products for users, and providing a series of products that can meet the needs of different customers. We provide top-quality service in the whole process including pre-sales, in-sales and after-sales. We launch activities along this guideline and has obtained a good effect.

To serve the clients better, the Company has provided 24-hour hot line service to accept requests of client service, and give a timely response of system failures reflected by the users on the basis of service provisions. At the same time it has established client archives file and analyze service information. It has formulated all service standards and process, examine and track service course and quality to assure service quality meet requirements of standards and process. On the basis of different natures of the clients, it customizes different service products, like: machine room on-duty service, energy saving operation service. Moreover, according to service provisions, it provides system overhauling in transition season (in every spring and autumn).

► Protection of Intellectual Property Rights

The shallow geothermal energy collection technology originally developed by the Company has obtained 35 invention patents and 11 new-type patents. The Group implements strict management measures to intellectual property and assures protection of its legal rights with legal registration.



2018 Environmental, Social and Governance Report

➤ Anti-corruption

Honesty and law observation, integrity and work for public interest is the base for enterprise to keep a foothold as well as occupational ethics which shall be practiced by each employee. The Company strictly implements relevant laws and regulations, policies of the State, combats corruption and upholds integrity, positively launches internal control management risk troubleshooting and prevention measures, and adopts "zero tolerance" attitude to such illegal acts as bribery, blackmailing, fraud, etc. There are no illegal and undisciplined events or any related lawsuit occurred during the year.

Specific to such links as purchasing by bid invitation which easily gives rise to corruption, the Company adopts strict monitoring measures, establishes bid invitation review group to assure fairness, publicity and justness in the course of bid invitation. The employees who work honestly, reject supplier's gifts or dinners, and persuade the suppliers out of doing them would be rewarded accordingly.

➤ Community Investment

(1) Cooperate with the community to train talents

The Company deeply implements the strategy of strengthening talents, centers on the development of the enterprise's hi-tech industry, and reinforces cooperation of industry-college, scientific research institutions and colleges and universities, fully utilizes unique advantages of abundant resources of academicians in Beijing. Through the consolidation of such comprehensive advantages of technology resource, human resources, academic resources and professional resources, etc. effectively displays high-end talents' role in development of major projects, cultivation of high-end talents, technology cooperation and exchange, etc. and advances gathering of innovative elements into enterprise, prompt the enterprise to be a true entity for independent innovation, improves the enterprise's technical innovative capability and comprehensive competitiveness, to bring newer and more high-end technology to the enterprise, to provide a forceful technical support to enterprise development.

(2) Poverty Alleviation

In response to the China Energy Conservation and Environmental Protection Group's "Dream of Dreams" program, our company has funded two difficult college students: Geng Haili and Geng Yinghai, brother and sister from Henan Province, and promised to provide financial support to the two siblings for their pursuance of higher education to the postgraduate level. In the summer of 2018, Mr.

2018 Environmental, Social and Governance Report

Xu Shengheng, Chairman of HYY Group, invited the brother and sister to participate the work-study in Beijing. During the one-month work-study process at the headquarters of HYY Group, the two siblings learned about the development history of HYY Group's eco-heating industry in the marketing center, and learned the principle of the original technology of single-well heat exchange circulation technology. Visiting the show room for representative products and on-site projects; participated in the discussion and research of special technical issues in the technical center; participated in the contract formulation and progress tracking work in the comprehensive center. The employees of HYY Group also took them to visit the major scenic spots in Beijing at the weekend. Mr. Zhu Jiming, the party secretary of China Energy Conservation and Environmental Protection Group and Mr. Zhu Wei, the chairman of the labor union, also made a special trip to the HYY Group to visit the two siblings while their working in HYY. The leaders brought a letter from the secretary of the China Energy Conservation and Environmental Protection Group, Mr. Liu Dashan to the siblings. In the meeting, they encouraged the siblings to study hard and gain more knowledge in the HYY Group. In their growing up, they should know how to cherish and appreciate.



2018 Environmental, Social and Governance Report

KEY PERFORMANCE INDICATORS

B. SOCIAL			
	Indicator	Unit	2018
B1.1	Total workforce by gender		
	Male	No. of staff	438
	Female	No. of staff	112
	Total workforce by employment type		
	Full-time	No. of staff	393
	Part-time	No. of staff	157
	Total workforce by age group		
	Age below 30	No. of staff	61
	Age 30-39	No. of staff	102
	Age 40-49	No. of staff	130
	Age 50-59	No. of staff	207
	Age above 60	No. of staff	50
	Total workforce by geographical region		
	P.R. China	No. of staff	518
	Hong Kong	No. of staff	32
	Total workforce by category		
	Senior Management	No. of staff	22
	Middle Management	No. of staff	31
	Non-management	No. of staff	497
B1.2	Employee turnover rate by gender		
	Male	%	8.75
	Female	%	17.03
	Employee turnover rate by age group		
	Age below 30	%	23.75
	Age 30-39	%	10.53
	Age 40-49	%	7.14
	Age 50-59	%	3.27
	Age above 60	%	25.37

2018 Environmental, Social and Governance Report

	Employee turnover rate by region		
	P.R. China	%	10.54
	Hong Kong	%	11.11
B2.1	Number and rate of work-related fatalities	%	0
B2.2	Lost days due to work injury	Day	0
B3.1	The percentage of employees trained by gender		
	Male	%	100
	Female	%	100
	The percentage of employees trained by employee category		
	Senior Management	%	100
	Middle Management	%	100
	Non-management	%	100
	The average training hours completed per employee by gender		
	Male	Hours	28
	Female	Hours	21
B3.2	The average training hours completed per employee by category		
	Senior Management	Hours	8
	Middle Management	Hours	12
	Non-management	Hours	23
B5.1	Number of suppliers by geographical region		
	P.R. China	No.	62
B6.1	Percentage of total products sold or delivered subject to recalls for safety and health reasons	%	0
B6.2	Number of products and service related complaints received	No.	0
B7.1	Number of concluded cases regarding corrupt practices brought against the Group and its employees	No.	0