



Environmental,

Social and Governance Report



Environmental, Social and Governance Report

About the Environmental, Social and Governance Report

This is the third Environmental, Social and Governance Report (hereafter referred to as “the ESG Report”) published by Tiangong International Company Limited (hereafter referred to as “the Company”) and its subsidiaries (collectively referred to as “the Group”). The ESG Report mainly covers the annual performance and progress of the Group’s environmental, social and other sustainability issues in 2018, so as to respond to relevant expectations of stakeholders. It is to be read in conjunction with the “Corporate Governance Report” of *Tiangong International Company Limited Annual Report 2018* (“Annual Report 2018”), so as to have a comprehensive overview on the environmental, social and governance (“ESG”) performance of the Group.

ESG Reporting Content and Period

Unless otherwise stated, the organizational scope of the ESG Report covers the Company and its major subsidiaries. Other subsidiaries and associates of the Group that are not directly engaged in production activities and therefore have minor impacts on the overall environmental and social performance of the Group, are not included in the reporting scope of the ESG Report. If their operation has greater impacts on the environmental and social performance of the Group in the future, the Group would consider incorporating those companies into the scope of ESG reports in future fiscal years. All information disclosed in the ESG Report was sourced from the Group’s documents and statistics. The Group assures the truthfulness, accuracy and completeness of the ESG Report.

The reporting period of the ESG Report is consistent with that stated in the Annual Report 2018 of the Group, which is 1 January 2018 to 31 December 2018 (“reporting period”). Where necessary, some of the content goes beyond the aforesaid period so as to enhance the comparability of the ESG Report.

Reporting Guideline

The ESG Report was prepared based on the *Environmental, Social and Governance Reporting Guide* under Appendix 27 to the *Rules Governing the Listing of Securities* (“Listing Rules”) issued by the Stock Exchange of Hong Kong Limited (“SEHK”). Moreover, it was prepared based on the principles of materiality, quantitative, balance and consistency to determine and disclose its contents, and is compliant with the “comply or explain” provision set out in the *Environmental, Social and Governance Reporting Guide* by SEHK.

Form of Publication

The ESG Report is published in two language versions — Traditional Chinese and English. If there is any inconsistency between the two versions, the Traditional Chinese version shall prevail. You are welcome to access the Traditional Chinese and English versions of the ESG Report in the PDF format through the Company’s website, <http://www.tggj.cn/>, and SEHK’s HKExnews website.

Comments and Feedback

Your feedback is immensely important for the Group to keep enhancing its environmental and social performance. If you have any comments or feedback, you are welcome to contact us by email at tiangong@biznetvigator.com.



1. Group Profile

Established in 1981, the Group is a manufacturer of die steel ("DS"), high speed steel ("HSS"), cutting tools and titanium alloy. The Group focuses on manufacturing special steel, cutting tools and titanium alloy with full business integrity and quality, and has become one of the China's top 500 private enterprises and private enterprises in manufacturing sector. After years of development, the Group has developed an integrated system of scientific researches, production and sales covering mining, special steel production and tool manufacturing equipping with cutting-edge production equipment and technology.





2. ESG Management

By implementing the value of “contributing to the society and bringing benefits to people” and upholding the mission of fulfilling corporate social responsibility, the Group continuously improving its ESG management and ESG-related systems regarding product quality, environmental protection, employee rights and benefits, health and safety, etc., to realize its sustainable development targets.

2.1 Responsibility Mechanism

As the market gradually transitioning to a lower-carbon economy, it may entail extensive policy, legal, technology, and market changes that pose different levels of risks to companies. For example, climate change motivates companies to pay more attention to their environmental measures to tackle the changes. Under this circumstance, the Group proactively responds to ESG risks by establishing proper and effective ESG risk management and internal control systems and gradually integrating them into the Group’s risk management system¹. The Board is responsible for evaluating and determining ESG risks and ensures that appropriate and effective ESG risk management and internal control systems are in place, and is responsible for the Group’s ESG strategy and reporting.

In order to implement ESG management works effectively and systematically, the Group has built an ESG management system formed by the Company’s senior management and each functional department with different responsibilities. The senior management of the Company takes responsibility for reviewing ESG topics, formulating corresponding action plans and reporting to the Board about the ESG works, which are coordinated and carried out by each functional department. To further enhance ESG management at the professional and systematic levels, the Group will proactively refer to the SEHK’s guidelines and comments of the fulfillment of ESG responsibility of listed companies to gradually improve the ESG management system in the future, and to create an ESG working group which will be responsible for organizing, coordinating and consolidating ESG management works. By doing so, it is able to form a hierarchical ESG management system to continuously implement the Group’s vision in social responsibility.

¹ For details of the Group’s internal control and risk management system, please refer to the relevant content in the 2018 Annual Report.



2.2 Stakeholder Engagement

Shareholders and investors, government, customers, employees, suppliers and communities are all important stakeholders of the Group. Keeping a smooth communication with each stakeholder is an essential part for the Group to realize sustainable development. The Group could have a better understanding of each stakeholder's expectations by multi-dimensional and regular stakeholder engagement to make specific work plans and continuously improve itself.

Stakeholders	Expectations	Communication Methods	Frequency	Respond Actions
Shareholders and Investors	Investment returns Corporate governance Regular communication	General Meetings Company announcement Regular reports	Annual/quarterly/ irregular	- Continuously improving risk management and internal control system; - Enhancing information disclosure and communicating regularly
Government	Compliance with laws and regulations Paying tax according to laws	Supervision and assessments Information disclosure	Regular/irregular	- Strictly complying with national laws and regulations and implementing works to be compliant; - Proactively cooperating with regulatory departments; - Paying tax according to laws
Customers	High-quality products Quality management Service guarantee	Contracts and agreements Customer service Service feedback	Annual/quarterly/ irregular	- Continuously improving production management system; - Promoting scientific research innovation and elevating quality and efficiency in production
Employees	Employee rights and benefits Health and safety Promotion and trainings	Labor contracts Employee conferences Employee activities	Regular/irregular	- Strengthening human resource management system to ensure employee rights and benefits; - Implementing measures relating to employee's occupational health and safety; - Formulating training plans and broadening employee's development path
Suppliers	Being Fair and just Win-win cooperation	Contracts and agreements Supplier assessments	Annual/irregular	- Guaranteeing the bidding and procurement process to be fair and transparent; - Fulfilling contracts and agreements
Communities	Community development Environmental protection	Community communication Charitable contribution Eco-friendly events	Regular/irregular	- Engaging in the harmonious community development - Proactively holding charity donation events - Implementing environmental protection measures



2.3 Materiality Assessment

Based on the Group's development direction and stakeholders' focus points, the Group conducted a materiality assessment according to the "materiality" principle, and, therefore, it could report the material ESG performance of the Group and to respond to stakeholders' expectations more specifically.

There were mainly three steps of the materiality assessment, including reviewing the previous ESG works, identifying ESG topics, and verifying and reviewing ESG topics. First of all, the Group reviewed its previous ESG works and ESG Reports in 2016 and 2017. Following this, with reference to SEHK guidelines and other sustainability reporting guidelines, the Group identified ESG topics of this year by taking full consideration of the Group's business nature and development strategy together with stakeholders' expectation and industrial development trends. After ESG topics are identified, they were verified and reviewed by the Group for the determination of the topics to be disclosure and the content of the ESG Report.

The verified ESG topics are listed as follows. The ESG Report shows the ESG performance of the Group during the reporting period according to the topics and relevant reporting guidelines.

Aspects	Reported ESG topics
Environmental	Emission management Use of resources Environmental protection
Social	Employee rights and benefits Labor standards Health and safety Employee development and training Supplier management Product responsibility Scientific research and innovation Anti-corruption Community investment



3. Manufacturing with Excellent Craftsmanship, Operating with Pragmatic Attitude

The Group upholds the development concept of “building a well-established Tiangong with a reputable brand” and adheres to the spirit of excellent craftsman to manufacture high-quality products with great care and continuous improvement. The Group attaches great importance to innovation and keeps elevating product quality and production efficiency through innovations in technologies.

3.1 Quality of Tiangong

As a manufacturer of special steel, cutting tools and titanium alloy, the Group strictly complies with the relevant laws and regulations relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress, including but not limited to the *Work Safety Law of the People's Republic of China*, the *Recommendation Concerning Safety in the Use of Chemicals at Work*, the *Advertising Law of the People's Republic of China* and the *Trademark Law of the People's Republic of China*, etc. In addition, the Group has formulated and implemented quality control systems in accordance with the *Quality Management Systems — Requirements of National Standard of the People's Republic of China* (GB/T 19001-2016, identical to ISO 9001:2015, *Quality Management Systems — Requirements*) and has carried out measurement management of products according to ISO 10012:2003 *Measurement Management System* to guarantee its product quality in an all-around ways. Furthermore, to ensure production safety and the implementation of safety management of products and materials, the Group has formulated and implemented the responsibility system for production safety and safety commitment system. During the reporting period, the Group did not violate any laws and regulations relating to health and safety, advertising, labeling and privacy matters relating to products and services provided and methods of redress.

The Group meticulously and strictly manages the whole production process and has implemented various kinds of product quality control manual. A series of quality inspection is adapted to the production process from receipt of raw materials to the finished products. The Group examines the raw materials upon their arrival by taking samples for chemical tests to ensure their quality meets the specification. During the production process, physical and chemical analyses on the semi-finished products of each stage of production are done to ensure their production quality. In addition, the technology department and quality inspection department of the Group are responsible for the safety technology qualification of the design of new products, new techniques and equipment, and supervising the implementation of the safety technology operation regulations of the production safety procedure of each product, respectively, to ensure production safety. A series of quality tests is conducted by the Group for the finished products to guarantee that they meet relevant requirements regarding health and safety, labeling, environmental protection, etc., before entering into the market. During the reporting period, the Group was awarded the title of “China Industrial Model Enterprise” and became one of the enterprises in Jiangsu Province who is certified to be in compliance with Chinese Grade 1 Management and Measurement System, attributing to its persistence in maintaining high-quality of products.



The Group was awarded the title of “China Industrial Model Enterprise”

The Group attaches great importance to customers' feedback and provides pre-sales and after-sales service to them. The Group proactively responds to customers' comments and suggestions regarding the products and services of the Group, and timely arranges personnel to give feedback according to the formulated customer service management measures. In addition, customers could identify the authenticity of products through the Group's product authenticity checking systems, including QR code, digital security query system and product sequence number system. The system not only protects the rights and benefits of customers to buy quality products, but also maintains the Group's business credit. Regarding the information of the Group and its clients, the Group strictly complies with the applicable record management measures and confidentiality rules to keep information and messages safe.

3.2 Driven by Innovation

2018 is a crucial year to continue to implement the “Thirteenth Five-Year Plan”, which indicates that DS, HSS, titanium alloy and powder metallurgy products are included in the strategic emerging industry development plan. Moreover, in the “China Manufacturing 2025 Plan”, DS and HSS, titanium alloy, and powder metallurgy are classified as distinct developing advanced basic materials, key strategic materials, and advanced new materials, respectively. Innovation is the primary driving force for the development of an enterprise. The Group firmly seizes the chance, and proactively renovates and improves its current products through its technical research and development. The Group not only greatly inspires and supports employees to be innovative and conduct scientific research and awards the group or individual for their achievements in innovation, but also proactively cooperates with external professional researchers and makes use of the Group's internal advanced equipment and external technology improvement to accelerate the research and development of advanced new materials.



By continuous exploration and research, the Group officially commenced the first establishment of powder metallurgy production line in China on 26 March 2018, which fills the domestic gaps of the research of large-scale production of powder metallurgy. On 18 November 2018, China Iron & Steel Research Institute Group and the Group jointly established the first powder metallurgy institute in China, which aims to satisfy the needs of the research and development and performance test of new products of powder metallurgy. The institute also provides technical support and reliable assurance to the mass production and research and development on the product types of powder metallurgy. The Group's researches and establishment in the powder metallurgy production line is an important step to move forwards to the field of new materials, and to focus its efforts in the world's leading advance technology and its high-end application.



On 18 November 2018, China Iron & Steel Research Institute Group and the Group jointly established the first powder metallurgy institute in China



The Group's 2018 Summing-up and Commending Conference for Technology Innovation

3.3 Supplier Management

Suppliers are important business partners of the Group and the Group hopes to cooperate with suppliers for mutual development. Hence, the Group has formulated and implemented the regulations for bidding and long-term management mechanisms of materials procurement, such as the *Regulation for Administration of Procurement of Supplies and Price Accounting* and the *Management Regulation of Bidding*, to standardize the Group's bidding and material procurement management system and to ensure the fair, just and transparent bidding. In addition, the Group has formulated supplier assessment systems, established a supplier list and assessed suppliers' environmental and social performance on a regular basis, including their management level, product quality, after-sale service, whether environmental and social management measures are in place, etc. By doing so, it is able to guarantee the quality of raw materials and equipment that the Group uses in production as well as to manage the environmental and social risks from suppliers in a better way.

The Group will have regular on-site assessments to evaluate suppliers' social responsibility performance. For instance, if suppliers have violations of labor regulations, including employment of child labor, forced labor, etc., the Group would immediately terminate the cooperation with them. Additionally, the Group would consider the operation location of suppliers and try to choose local suppliers to reduce the emissions of pollutants due to long-distance transportation.



3.4 Anti-corruption and Upholding Integrity

The Group implements the business philosophy of “business starts from being integrity” and strictly complies with the applicable laws and regulations relating to bribery, extortion, fraud and money laundering, including but not limited to the *Criminal Law of the People’s Republic of China*, the *Regulations of the People’s Republic of China for Suppression of Corruption*, Listing Rules and fair competition rules. The Group has formulated and implemented the disciplinary measures for employees according to the aforesaid laws and regulations. The Group would handle the employee who may be involved in corruption and bribery seriously. The cases shall be transferred to judicial authority with any serious circumstance. Moreover, the *Management Regulation of Bidding* has been formulated to regulate bidding and ensure its process is transparent and open. During the reporting period, the Group did not violate any laws and regulations relating to bribery, extortion, fraud and money laundering.

The Group requires that employees shall comply with national laws, regulations and policies and strictly implement every regulation, measure and fundamental practice of the Group. By implementing the reward and punishment measure, the Group encourages those who comply with laws and regulations, while punishes those who violate relevant regulations with reference to relevant regulations. Moreover, the Group requires that business partners shall comply with relevant regulations to ensure the implementation of legal governance, and the procurement employees shall not have any economic interests with suppliers and be honest in performing duties.



The appraisal results of the “2017 Integrity Enterprise” of China Hardware and Electromechanical Chamber of Commerce of All-China Federation of Industry and Commerce were announced during the reporting period and the Group was awarded the “2017 Integrity Enterprise”.

4. Green Development, Protecting the Environment

The sustainable development of an enterprise could not be successful without implementing corresponding safety and environmental protection works. The Group thoroughly implements the principle of “production must be subject to safety, production must be subject to environmental protection, production must adhere to green development”. The Group takes safety and environmental protection as the foundation and bottom line of all types of works so as to realize the Group’s green and high-quality development.

4.1 Environmental Responsibility Management

As the works of ecological civilization construction continue to develop, China continues to enhance its environmental governance and revolves its governance regime in ecological and environmental areas. Moreover, the *Opinions of the Central Committee of the Communist Party of China and the State Council on Strengthening the Ecological and Environmental Protection in All Aspects and Firmly Winning the Battle of Preventing and Controlling Environmental Pollution* was published on 24 June 2018 and set out an overall plan for enhancing ecological and environmental protection and firmly winning the battle of preventing and controlling environmental pollution. Therefore, the Group has proactively responded to the national call of accelerating the reform of ecological civilization system and building a beautiful China by further enhancing safety and environmental protection works, implementing specific environmental protection management tasks, raising the awareness of safety and environmental protection laws, and proactively implementing energy saving and emission reduction. During the reporting period, the Group held a seminar for environmental protection management and established a leading group of environmental protection management, which is consisted of various cadres of the Group. By doing so, a management system has been built and formed by “supervisor-deputy supervisor-team members”. This group upholds the central idea of green development and proactively promotes safety and environmental protection measures by comprehensively investigating dust, solid waste, spent oil, wastewater, noise and other potential pollutions. Improvement and corrective measures are formulated thereafter. The leading group of environmental protection management takes the responsibility for environmental protection management, which is implemented by the person-in-charge, such as building green facilities, equipment rectification and establishing waste inventory records. Hazards are investigated and eliminated in time to ensure relevant national, provincial and municipal standards have been met. The achievements of the fulfillment of environmental management responsibility of the Group during the reporting period have been disclosed in chapter 4.2 and 4.3.





4.2 Use of Resources

The Group strictly complies with relevant laws and regulations relating to the use of resources, such as the *Cleaner Production Promotion Law of the People's Republic of China*, the *Energy Conservation Law of the People's Republic of China*, etc. In addition, the Group has formulated and implemented water and electricity saving management measures and used resources and energy reasonably in accordance with the principle of reducing, reusing and recycling ("3R Principle"). By doing so, it is able to improve water and electricity utilization efficiency of the Group and save resources and energy.

The Group uses steel scrap and grinding swarfs, which are mainly sourced from the process of steel production, for steel smelting and production. Grinding swarfs are recycled and reused for steel production of the Group, which greatly increases the utilization rate of the raw materials. During the reporting period, the Group reused about 64,708.11 metric tons of grinding swarfs.

The Group advocates using electricity reasonably by implementing the *Management Measures of Saving Electricity* and using appropriate lighting fixtures according to the specific lighting needs, replacing energy consuming lights by energy-saving lights gradually. Furthermore, the Group requires to keep equipment from idling and wasting energy. Moreover, the Group holds water and electricity saving education events to raise employees' energy saving and environmental protection awareness and strengthens the supervision over water and electricity usage.

As for water sourcing, water used by the Group is mainly sourced from municipal fresh water supplies and wells. In order to increase water efficiency, a proportion of wastewater is reused as cooling water for production facilities after biochemical treatment in wastewater treatment plant. The Group also applies a water recycling system. During the reporting period, the amount of recycled water was approximately 110,867 metric tons.



As of the end of the reporting period, the major resources consumptions of the Group are listed as follows:

Indicators	Unit	2018	2017
Number of products (steel and titanium alloy)	Metric tons	196,015.68	159,658.56
Water consumption	Metric tons	356,519.00	170,593.00
Intensity of water consumption	Metric tons/ metric tons of products	1.82	1.07
Electricity consumption	Megawatt hours	610,815.37	515,675.13
Intensity of electricity consumption	Megawatt hours/ metric tons of products	3.12	3.23
Natural gas consumption	Ten thousand cubic meters	3,549.80	3,192.01
Intensity of natural gas consumption	Ten thousand cubic meters/ metric tons of products	0.02	0.02
Packaging materials used	Metric tons	2,820.00	Not reported

4.3 Emissions

The Group strictly abides by relevant laws and regulations relating to air and greenhouse gas ("GHG") emissions, discharges into water and land, and generation and disposal of waste, and complies with policies and management practices on minimizing the issuer's significant impact on the environment and natural resources, including but not limited to the *Environmental Protection Law of the People's Republic of China*, the *Atmospheric Pollution Prevention and Control Law of the People's Republic of China*, the *Water Pollution Prevention and Control Law of the People's Republic of China*, the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste*, the *Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise*, the *Environmental Protection Tax Law of the People's Republic of China* and the *Interim Measures of Jiangsu Province on Administration of Hazardous Wastes Management*. Moreover, for implementing the environmental protection management for production and operation, the Group has formulated the *Environmental Protection Management Measures* according to the applicable national laws and regulations relating to environmental protection listed above. The Group strictly complies with and implements the management measures relating to the prevention and control of water pollution, air pollution and noise, waste and the use of resources. During the reporting period, the Group did not violate any laws and regulations relating to air and GHG emissions, discharges into water and land, and generation and disposal of waste.

Moreover, the *Environmental Protection Tax Law of the People's Republic of China* has come into force since 1 January 2018 and requires that the enterprises and public institutions shall pay environmental pollution tax in accordance with the provision of the law to protect and improve the environment, and promote the ecological civilization construction. Therefore, the Group proactively and timely respond to the law by strictly fulfilling the responsibility of environmental protection and implementing environmental protection works as well as paying environmental pollution tax according to the law.



4.3.1 Exhaust Gas and GHG

The air emissions and GHG generated from the operation of the Group are primarily due to natural gas burning and electricity consumption. The Group has accomplished the renovation of boilers and furnaces, which replaced coal with natural gas as their fuel source and reduced air pollutant emissions during their operation. In addition, dust and oil mist are generated from the operation of the Group. High-efficient dust and oil mist collection devices have been installed on-site accordingly to reduce their impacts on the environment and employees' health. Regular maintenance has been conducted by the equipment maintenance department of each workshop to ensure the good operation of equipment and prevent fugitive emissions and extra energy consumption due to equipment malfunction. Furthermore, employees are required to operate equipment properly according to the operational guidelines to avoid equipment idling and reduce its energy consumption and GHG emissions. During the reporting period, the intensity of total GHG emissions of the Group decreased by 4.5% compared to that of previous reporting period.

During the reporting period, the Group enhanced dust treatment efficiency and reduced its environmental impact through the following practices:

1. Corrective measures are fully implemented to the dust removal equipment in workshops to improve dust removal efficiency;
2. Enclosing ash yards in workshops to prevent dust emission;
3. Investigating whether discharge outlets of exhaust gas and leak-proof measures meet environmental protection requirements;
4. Improving and renovating the exhaust system to elevate oil mist treatment efficiency.



As of the end of the reporting period, the major air pollutants and GHG emissions of the Group are listed as follows:

Indicators	Unit	2018 ²	2017 ³
Air pollutants ⁴			
Sulfur oxides emissions	Metric tons	0.51	0.49
Nitrogen oxides emissions	Metric tons	66.45	59.72
GHG ⁵			
Scope 1: direct emissions	Metric tons	76,813.56	69,017.28
Scope 2: indirect emissions	Metric tons	429,708.61	362,777.45
Total GHG emissions	Metric tons	506,522.17	431,794.74
Total GHG emissions intensity	Metric tons/ metric tons of products	2.58	2.70

4.3.2 Wastewater

The Group has formulated and implemented the *Administrative Procedures on Prevention and Control of Water Pollution*. All wastewater from production is collected and transferred to the wastewater treatment plant of the Group for treatment, which ensures that the discharge of treated wastewater reaches relevant standards. The supervision and monitoring of wastewater discharge are implemented by the Group in accordance with the *Implementation Procedure of Monitoring and Measurement*. Moreover, both of wastewater discharge pipeline and treatment facility have adopted seepage prevention measures to prevent wastewater leakage from causing impacts on the surrounding.

² The data of 2018 were set out based on the consumption of natural gas, gasoline and electricity of the Group. The calculation scope is broader than the previous reporting period due to the inclusion of gasoline consumption in this year.

³ The data of 2017 were set out based on the consumption of natural gas and electricity.

⁴ The calculations of air pollutants were set out based on the *Pollution Generation and Discharge Coefficient Manual of Industrial Pollution Sources in the First National Census of Pollution Sources* and the *Road Vehicles Air Pollutant Emission Inventory Preparation Technical Guide (Trial)*. The data used in the calculation were sourced from the recorded data of the Group and conservative estimates were made based upon historical performance data or benchmarking with similar facilities.

⁵ The calculations of GHG emissions were set out based on the *Guideline of the Greenhouse Gas Emissions Accounting and Reporting for the Chinese Steel Production Enterprise (Trial)* and the *2011 and 2012 Chinese Regional Grid Average Carbon Dioxide Emission Factor* published by National Development and Reform Commission of the People's Republic of China. The data used in the calculation were sourced from the recorded data of the Group and conservative estimates were made based upon historical performance data or benchmarking with similar facilities. Among these, the datum of scope 2: indirect emission in 2017 was revised and shall be subject to the data listed here.



4.3.3 Solid Wastes

During operation, the solid wastes generated by the Group include non-hazardous wastes, such as melting slag, waste paper, etc., and hazardous wastes, such as spent oil (including spent lubricating oil and waste mineral oil), acidic and alkaline waste, etc. The Group has implemented environmental protection measures in accordance with relevant national and local environmental protection standards to ensure the solid waste treatment meets relevant requirements. Considering the complete data of hazardous waste were not disclosed in the previous reporting period, the Group enhanced its waste management during the reporting period by arranging specific personnel to handle wastes under the lead of the leading group of environmental protection management. Comprehensive waste inventory records have been established to improve the data collection system for waste. In addition, specific personnel is responsible for the implementation of anti-corrosive and leakage prevention measures to the waste storage areas and their compliance with relevant environmental requirements.

The Group follows the 3R principle to treat wastes. As for hazardous wastes, they are properly stored in strict compliance with dangerous good management regulations and are handed over to qualified third-parties for treatment. As for non-hazardous wastes, the Group divides them into recyclable and non-recyclable wastes. For instance, the metal in the smelting slag generated from production of the Group could be reused in steel production, while other parts could be transferred to brick factory and cement plant for brick and cement production. In addition, the spent lubricating oil produced from operation of the Group is reused after being treated in the spent lubricating oil treatment plant to reduce its generation. Domestic wastes are collected and treated by the third parties entrusted by the Group.

As of the end of the reporting period, the amount of solid wastes of the Group is listed as follows:

Indicators	Unit	2018
Non-hazardous wastes		
Melting slag	Metric tons	34,604.86
Waste paper	Metric tons	36.86
Total amount of non-hazardous wastes	Metric tons	34,641.72
Hazardous Wastes		
Acidic and alkaline wastes	Metric tons	28,087.00
Other hazardous wastes ⁶	Metric tons	26.28
Total amount of hazardous wastes	Metric tons	28,113.28

4.3.4 Noise

The Group has formulated the *Administrative Procedures on Prevention and Control of Noise Pollution* and conducted noise assessment in the workshops. A series of measures to mitigate noise impact has been taken, such as taking priority in choosing quiet equipment, to ensure the noise from the production of the Group complies with the *Emission Standard for industrial Enterprises Noise at Boundary*. The Group shall arrange the operation with loud noise in the daytime as far as possible to avoid affecting residents' daily life in the evening.

⁶ Including spent lubricating oil, waste mineral oil, oily sludge and other hazardous wastes.



5. Unified Tiangong, Forging ahead Together

The Group takes “enterprise develops prosperously and employees become wealthy” as its business management target to standardize human resource management and enhance team management skills. The Group strives to build a high-quality, united and hardworking team with strong cohesiveness to make progress with employees together.

5.1 Employees’ Rights and Benefits

The Group strictly complies with relevant laws and regulations relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity and other benefits and welfare, including but not limited to the *Labor Law of the People’s Republic of China*, the *Labor Contract Law of the People’s Republic of China*, the *Trade Union Law of the People’s Republic of China* and the *Special Rules on the Labor Protection of Female Employees*. To further standardize the Group’s human resource management, the Group has formulated and implemented the *Human Resources Management Rules of Tiangong International Company Limited*, the *Compensation Management Measures of Technical and Management Positions*, the *Work Attendance Regulation and Management Measures of Housing Provident Funds* and other human resource management policies. The Group has implemented reasonable working hours, sound labor contract system and recruitment system, comprehensive promotion mechanisms and remuneration and benefit policies, which enable employees to keep their mind on work. On the front of preventing child labor, the Group strictly complies with the applicable laws and regulations, such as the *Law of the People’s Republic of China, on the Protection of Minors*, resolutely objecting to hire child labor under 16 years old as an employee. During the reporting period, the Group did not violate any laws and regulations relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, other benefits and welfare, prevention of child labor and forced labor.

The Group advocates equality and diversity in the employment policies, and it does not discriminate against employees because of race, nationality, color, gender and other conditions. The Group standardizes recruitment management according to the *Recruitment Policy*. The recruitment is conducted in various ways, such as online recruitment, job fair, etc., under the principle of “openness, fairness, competition, competitive selection and resource”. During recruitments, the human resources department of the Group verifies the background of every candidate by checking his/her personal documents, such as identity card, diploma and so on to prevent hiring minors under 16 years old. The Group enters into individual employment contracts with its employees according to laws to cover wages, employee benefits and workplace safety and grounds for termination, etc. When a contract of employment is terminated, the termination follows relevant procedures according to the *Management Measures of Termination of Employment* and the labor contracts. In addition, the Group has paid the contributions to employees’ social insurance funds (including medical insurance, unemployment insurance, pension insurance, work-related injuries insurance and childbirth insurance) and housing provident funds for its employees. The Group ensures that employees are legally entitled to take paid leaves and other public holidays by the people-oriented policies regarding employee leave, and they are also entitled to take marriage leaves, maternity leaves and bereavement leaves. In addition, the Group has formulated the attendance management system, which legally stipulates the working hours of employees and strictly prohibits the occurrence of forced labor.



In order to fully inspire every employee's motivation in different positions, and establish and enhance the qualification-based job management system and compensation system, the Group has formulated the *Compensation Management Regulations for Technical and Management Position* to stipulate the compensation structure and its adjustment standard of employee's position. Moreover, in order to seek and cultivate outstanding management personnel, the Group takes "character is the most important, performance is the basis, seniority is the supplement" as its employees' promotion principles to inspire employees' enthusiasm at the workplace.

Holding an employees' representatives conference is an effective way for the Group to continuously promote democratic management. In order to protect the rights and benefits of employees, the Group holds employees' representatives conference every year to proactively acquire the current comments of employees' representatives to the Group. On 31 March 2018, the Group held the first meeting of the second employees' representatives conference of Tiangong International and proactively communicates with employees' representatives to understand their thoughts and needs.



A group photo of the Second Employees' Representatives Conference of the Group



The meeting of the Second Employees' Representatives Conference of the Group

5.2 Health and Safety

The Group always upholds the safety production principle of "safety first, emphasizing prevention" and takes full responsibility for safety. The Group strictly complies with relevant national laws and regulations relating to work safety, providing a safe working environment and protecting employees from occupational hazards, such as the *Work Safety Law of the People's Republic of China*, the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, the *Special Equipment Safety Law of the People's Republic of China*, the *Standards Labor Protection Articles of Jiangsu Province*, the *Interim Provisions on the Inspection, Elimination and Control of Potential Work Safety Risk*, etc. In addition, the Group has formulated and implemented the occupational health and safety management systems, the plans for inspection, elimination and control of potential risks, the safety operation manuals for each equipment, and the emergency response plans. During the reporting period, the Group did not violate relevant laws and regulations in China relating to occupational health and safety.



In order to ensure work safety of the Group and implementation of safety measures, and clarify the safety responsibilities for each position and implement the principle of “three no harms” at the on-site operation, the Group takes full consideration of relevant work safety regulations to build a occupational health and safety management system of the Group, which is formed by the formulated work safety responsibility system, safety management system, safety inspection system, labor equipment management system, fire control management system, protection regulation for female workers, potential hazards control measure, accident investigation and handling management measure and other safety management measures. According to the requirements of the safety education system, every employee is required to receive relevant safety education and enter into a work safety commitment after getting well known of all contents in it. Moreover, the Group has formulated safe operation regulations specifically for each equipment to instruct employees’ safe operation, including safety regulations of electric works and furnace operation. Employees are required to operate in accordance with these regulations. In addition, comprehensive and reliable safety equipment is allocated in workshops by the Group. Occupational hazards warning signs are in place to strengthen workplace safety management.

The Group has also established work safety responsibility system to clarify each person’s work safety responsibility and implement safety management. Other than holding meetings for safety management discussion, specific employees are in place for workplace safety inspection and eliminate workplace hazards or other problems by regular inspection and handling non-compliance. The Group has formulated hazards investigation work plans to discover and identify unsafe factors in production and prevent accidents from occurring. Various kinds of safety inspection, including comprehensive, professional, seasonal, inspection during holidays, and daily inspections, are implemented to protect employees’ life and keep their property safe. Furthermore, the Group has formulated contingency and rescue plans according to the *Work Safety Law of the People’s Republic of China* and the *Fire Protection Law of the People’s Republic of China*. The work safety leading group of the Group takes the lead in the emergency and rescue response operations. In addition, regular fire drills are held to increase employees’ emergency responsiveness.

The Group proactively improves the employees’ working conditions, and provide personal protective equipment according to the needs to prevent occupational diseases. Physical examination and various safety trainings are organized by the Group to raise the safety awareness of its employees.

5.3 Talent Development

The Group further builds a better workforce to promote company development by continuously improving employee training mechanism, strengthening the basic and professional knowledge of employees and broadening their career development path.

The Group has formulated and implemented the *Orientation Training Plan for New Employee of Tiangong International Company Limited* and the *Interim Measures for “Master-apprentice” Programs* of to facilitate new employees to be familiar with and adapt to the culture, policies and code of conduct of the Group quicker and better, and to be capable of doing the job. The orientation training includes introductions to the Group’s management philosophy and corporate culture, technology and application of tools, work safety management, quality management knowledge, safe operation rules and points to note, etc. Trainings are hosted by the Group’s senior employees and invited external experts to make employees acquire professional knowledge and skills better.

In addition, the Group promotes employees' development and makes full use of the human resource in the Group by formulating the *Interim Measures of "Master-Apprentice" Program* in the way of "deliver, help and teach face to face" program. The "deliver, help and teach face to face" program, also called "master-apprentice" program, is a training program that the Group implemented. Under this program, a new employee is paired up with an experienced employee through a one-on-one apprenticeship agreement in which the experienced employee is obligated to deliver and share experiences and methods with new employees. The experienced employees take full responsibility of drawing up the "deliver, help and teach face to face" training plan according to actual circumstances and provide guidance and assistance to his/her apprentice. Both the master and apprentice could make progress together through discussion and working together.

Other than professional knowledge and skills training, the Group held general education and culture seminars on an irregular basis to enrich employees' mental health.



The Group held a general education and culture seminar on 10 April 2018 by inviting Professor Libo to share his views on the Chinese spirit in poetries



6. Community Communication, Harmonious Development for a Common Prosperity

The harmonious development of society needs enterprises' proactive participation. The Group keeps its social responsibility in mind and proactively communicates with the community. By organizing various kinds of culture and sports activities and contributing to community charity events, the Group contributes to education and public welfare.

6.1 Energetic Tiangong

The Group always cares about the physical and psychological health of employees. Various kinds of culture and sports events could fully inspire employees' motivation by promoting their sport spirit and making them stronger, as well as elevating their team cohesion.



The 11th (2018) Employee Sports Competition of the Group

6.2 Charitable Contribution

A country's future counts on children. The Group is willing to help children in need and let them have a bright future. During the reporting period, the Group held a youth charity event named "Holding Children's Hand with Our Hand" to make a donation to the handicapped children.



The Group held a charity event of "Holding Children's Hand with Our Hand"

Furthermore, the Group participated in the Charity Night of Hong Kong Environmental Protection Practitioners Association Limited (“HKPAA”) with the theme of “Uniting Grassroots and Serving the Society” on 18 January 2018, which was held by the Charity Organization of HKPAA and HKPAA, and donated 1 million Hong Kong dollars. The donation in this event will be used for the Charity Organization of HKPAA to provide emergency assistance, and scholarship and events to the members’ children to the grassroots like environmental protection practitioners. Through this charity donation, the Group aimed to help grassroots and bring positive energy in the society.



The Group participated in the Charity Night of HKPAA

The Group donated RMB 500,000 to Nanjing Normal University Education Development Foundation during the reporting period in order to support and further promote the development of higher education and technology research.



7. SEHK Environmental, Social and Governance Reporting Guide Index

General Disclosures and KPIs	Description	Relevant Chapter(s) in the ESG Report or Explanation
Environmental		
Aspect 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	4.1, 4.3
KPI A1.1	The types of emissions and respective emissions data	4.3
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	4.3
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	4.3
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	4.3
KPI A1.5	Description of measures to mitigate emissions and results achieved	4.3
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved	4.3
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials	4.2
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility)	4.2
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility)	4.2
KPI A2.3	Description of energy use efficiency initiatives and results achieved	4.2
KPI A2.4	Description of whether there are any issues in sourcing water that is fit for purpose, water efficiency initiatives and results achieved	4.2
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	4.2



General Disclosures and KPIs	Description	Relevant Chapter(s) in the ESG Report or Explanation
Aspect A3: Environment and Natural Resources		
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources	4.1, 4.2
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	4.1, 4.2
Social		
Aspect B1: Employment		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare	5.1
Aspect B2: Health and Safety		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards	5.2
Aspect B3: Development and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities	5.3
Aspect B4: Labor Standards		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labor	5.1
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain	3.3



General Disclosures and KPIs	Description	Relevant Chapter(s) in the ESG Report or Explanation
Aspect B6: Product Responsibility		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labeling and privacy matters relating to products and services provided and methods of redress	3.1, 3.2
Aspect B7: Anti-corruption		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	3.4
Aspect B8: Community Investment		
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests	6