



**SINO BIOPHARMACEUTICAL LIMITED**

**中國生物製藥有限公司**

*(Incorporated in the Cayman Islands with Limited Liability)*

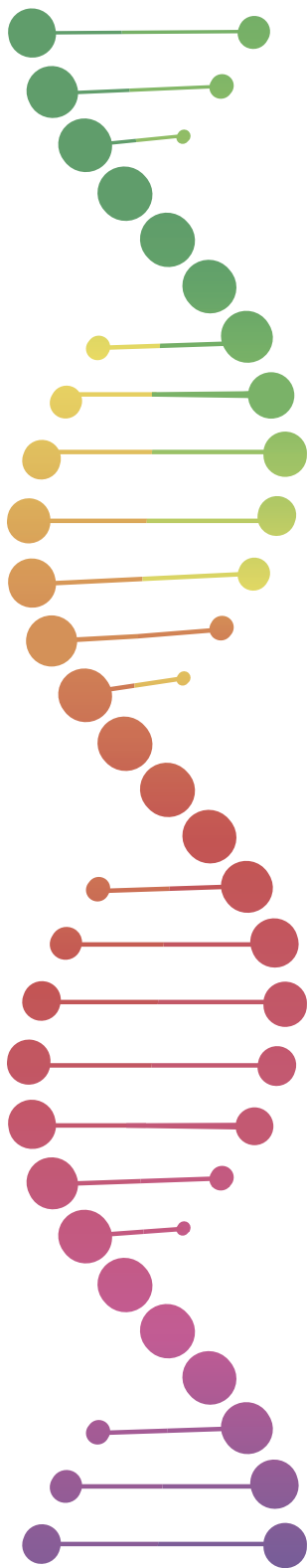
(Stock Code: 1177)



**2018**

**Environmental,  
Social and Governance Report**

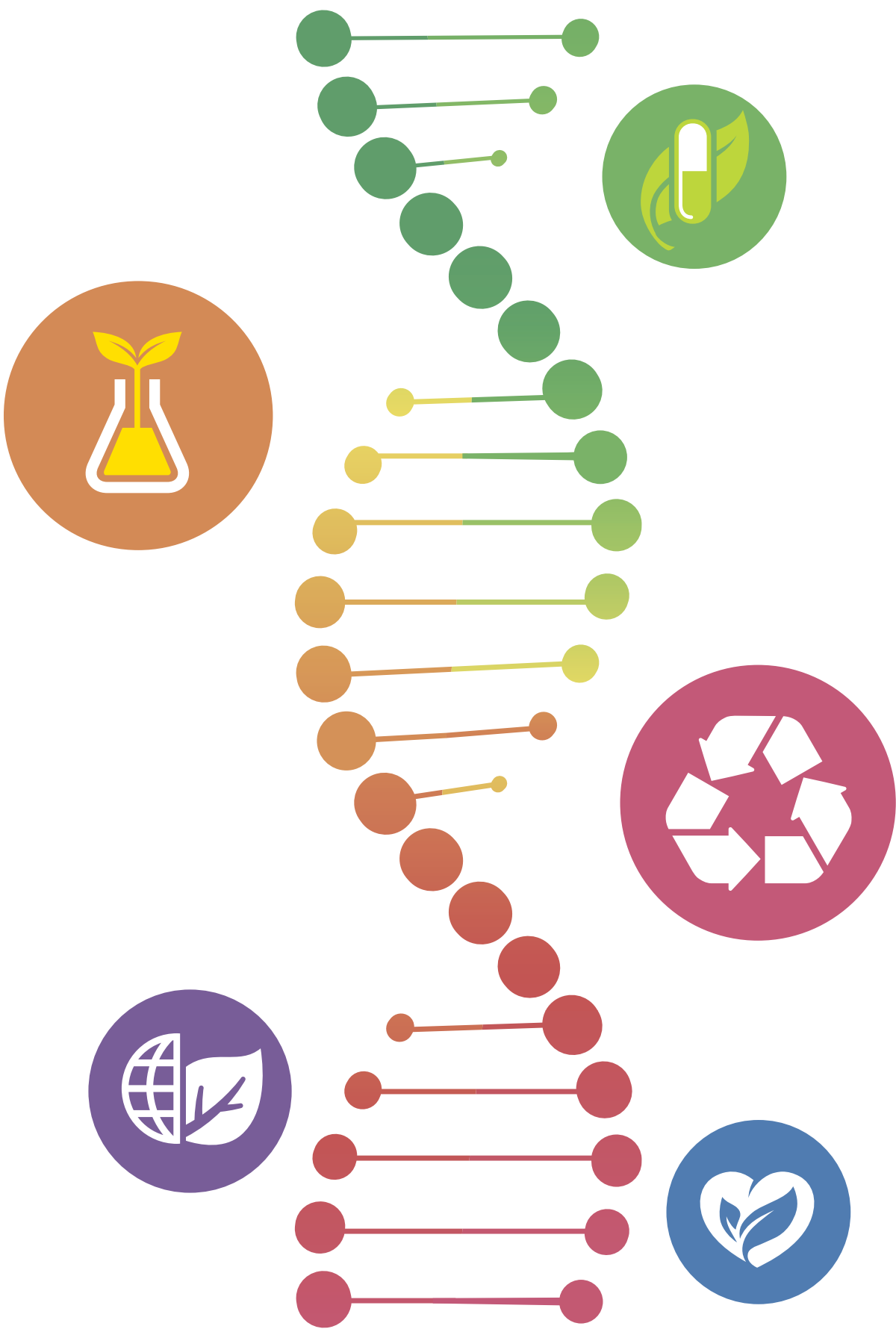
# 2018 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



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# 2018 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



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## I. ABOUT THIS REPORT

Sino Biopharmaceutical Limited (the “Company” or “Sino Biopharmaceutical”), together with its subsidiaries (collectively, the “Group”), is a leading, innovative research and development (“R&D”) driven pharmaceutical conglomerate in the People’s Republic of China (“China” or “PRC”). Our business encompasses a fully integrated industrial chain in pharmaceutical products which covers an array of R&D platforms, intelligent production lines and a strong sales system. The Group’s products have gained a competitive foothold in various therapeutic categories with promising potentials, comprising a variety of biopharmaceutical and chemical medicines for treating tumors, liver disease, cardio-cerebral diseases, analgesia, respiratory system diseases and orthopedic diseases. In order to enhance our sustainable competitiveness, the Group attaches great importance to R&D breakthroughs and is positioned as an industry leader in terms of R&D expenditures and product innovation. The Group also actively builds up co-operations with leading domestic and overseas pharmaceutical institutes and enterprises, to bring about the ecological commercialization of world-frontier R&D results to benefit mankind. To take advantage of the development in technology and policy changes and capitalize on opportunities arising from extension of our principal business, the Group adopts a comprehensive strategic development plan in the greater healthcare field. Meanwhile, the Group actively utilizes new technologies in Big Data, Artificial Intelligence and Financial Technology to continuously enhance the efficiency of the management, R&D, manufacturing and sales activities.

Sino Biopharmaceutical hereby issues its environmental, social and governance report for the year ended 31 December 2018, which covers the Company and its subsidiaries including Chia Tai – Tianqing Pharmaceutical Group Co. Ltd. (“CT Tianqing”), Lianyungang Runzhong Pharmaceutical Co., Ltd. (“LYG Runzhong”), Lianyungang Chia Tai Tianqing Medicines Co., Ltd. and Beijing Tide Pharmaceutical Co. Ltd. (Note) (“Beijing Tide”) to report the practices, performance and development of the Group in corporate social responsibility in 2018 to our shareholders, staff, clients, partners and other stakeholders.

This report was prepared in compliance with the requirements set out in the Environmental, Social and Governance Reporting Guide under Appendix 27 to the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited.

Except where otherwise specified, this report covers the period from 1 January to 31 December 2018 (the “Reporting Period”) and focuses on aspects of the Group’s environmental and social performance. For information relating to corporate governance, please refer to the Company’s 2018 Annual Report.

Note: Upon completion of the Company’s increase in shareholdings in Beijing Tide, Beijing Tide has become a subsidiary of the Company starting from 1 March 2018. The financial data of Beijing Tide were therefore consolidated into the Company’s consolidated financial report. Accordingly, Beijing Tide is included in the Group’s 2018 Environmental, Social and Governance Report.

## II. STRATEGY AND MANAGEMENT OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE MATTERS

With continuous development and expansion of the scale of the enterprise and promotion of internationalization process, the Group is gradually integrating sustainable development strategy into its overall development strategy system.

**Our mission:** Based on continuous innovation in research and development with improvement of quality, while providing customers with quality products and services to improve the quality of life, we will strive to maximise the investment return to shareholders and satisfy personal development needs of the staff, and take up more social responsibility to contribute our development results to society.

**Our objective:** By working with industrial elites, we will make efforts to promote the development of social responsibility in the healthcare industry and make the Group a respected corporate citizen in the industry.

**Our strategy:** We will integrate the philosophy of sustainable development into our overall corporate development plan to fulfill social responsibility, explore a clearer path to make the Group a leading enterprise with sense of social responsibility and philosophy of sustainable development in the healthcare industry, and at the same time integrate our sense of social responsibility and philosophy of sustainable development into various business segments of the Group to make it the basic principle of the behaviour of our staff.

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## 2.1. Participation of stakeholders

Based on the actual operation of the Company, our stakeholders are mainly governmental and industrial regulators, investors, customers, suppliers, employees, community, industry peers, media and the general public. In 2018, we communicated with the major stakeholders through various direct and indirect channels to better understand the environmental, social and governance matters relating to our business. The follow table sets out the channels of engagement for different stakeholders:

Stakeholders	Methods of communication
Governmental and industrial regulators	Government visits, supporting government projects, participation in policy development, industry collaboration
Investors	Board of directors, information disclosure, conferences, ordinary visits, website, mail, telephone
Customers	Academic seminars, new product launch conference, customer service, telephone consultation, complaint handling
Suppliers	Standardized supplier management system, improved procurement tender mechanism, annual evaluation
Employees	Trade union, employee congress, multi-type training, safety management, cultural and sports activities, health examination, paid annual leave
Community	Community activities, charitable organizations, volunteer work
Industry peers	Trade organizations, forums and conferences
Media and general public	Information disclosure, public opinion monitoring, media communication mechanism, website

## 2.2. Importance assessment and determination of key areas

According to (1) communication with stakeholders, (2) the core business model and operation procedures of the Company, and (3) statutory requirements for information disclosure, we have made materiality analyses and prioritised each environmental and social responsibility issue, and determined the importance and urgency thereof. The followings are the key issues in relation to the Group's environmental and social responsibility. The Group will give priority to such issues as the key areas for supporting its sustainable development.

Scope	Aspects
Environment	Strengthening construction of environment, health and safety management system Reducing the use of resources Reducing the impact on the environment
Society	Improving staff development and training Facilitating the health and safety of employees Strengthening supply chain management Paying particular attention to product responsibility Committed to contributing to society

As there was no significant change in our business compared with the last year, the Group has therefore prepared this report based on similar environmental, social and governance considerations as the previous year. The Group periodically reviews the key environmental, social and governance issues faced by peer companies and assesses whether its own priorities in relation to the industry require any commensurate adjustment.

## III. ENVIRONMENTAL PROTECTION

In pursuing economic development, to maintain sustainable development of the country and the enterprise as well as to fulfill a healthy and better life of the people by protecting the environment and searching for ecological civilization are also our concerns. The Group attaches great importance to energy conservation, emissions reduction and environmental protection, and will continue to put more efforts to protect the environment.

### 3.1. Construction of environment, health and safety (“EHS”) management system

#### ■ EHS Management System

Taking CT Tianqing, a major subsidiary of the Group, as an example, the company has established a relatively comprehensive EHS management organization. The environment management affairs are handled by the safety production division which is equipped with special environmental protection personnel responsible for environment impact assessment of construction projects and “Three Simultaneous” (note) completion acceptance, environmental protection facility operation, environment monitoring, handling of environmental pollution incidents and other routine environmental protection related matters.

(Note: Article 41 of the Environmental Protection Law of the People’s Republic of China requires that the design, construction and production of the anti-pollution equipment are done simultaneously with the main body of any construction project)

Meanwhile, CT Tianqing has formulated relevant environmental management system to have effective control and management on the company’s environmental factors, so as to ensure the effective operation of environmental protection work. The company has long set great store by the sustainable development strategy of establishing itself as an “environmental-friendly enterprise”, and has strictly controlled the emission of waste from production through the combined effect of enhanced production process, technology advancement and adoption of environmental protection facilities, so as to eradicate the adverse impact on staff and the environment.

#### Case Study:

During the Reporting Period, CT Tianqing initiated certification of its energy management system and established an “Energy Management Working Group” to enact and implement its “Energy Management Manual”. Since its implementation, the company has reorganised the major energy-consuming equipment, the proportion of energy consumption, and the comprehensive energy consumption for high output. It has also proposed further energy conservation and consumption reduction measures, and executed a liability statement regarding energy consumption with energy consuming units to formulate reward and penalty measures. These measures have created a solid basis for the enterprise’s continuing green development.



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## 3.2. Use of resources

As a pharmaceutical enterprise, resource consumption of the Group mainly comes from water, electricity and steam. The Group strives to reduce resource consumption by adopting energy-saving equipment, technological innovation, reasonable planning and design and other measures.

### ■ Energy consumption

The Company requires its subsidiaries to establish an energy-consumption equipment account and energy consumption account for each department by enhancing energy measurement, detailing tertiary measurement and comprehensively collecting and sorting out energy utilization data.

The resource consumption data for the Reporting Period is as follows:

Type of resources	Consumption	Consumption intensity (per RMB10,000 production value)
Total water consumption	1,409,234 cubic meters	0.8186 cubic meters
Total electricity consumption	52,378,224 kWh	30.4265 kWh
Steam	163,072 tons	0.0947 tons
Packaging materials	9,291 tons	0.0054 tons

### ■ Energy conservation

The energy consumption of the Group's subsidiaries in the process of production and operation is reduced through measures like adjusting product mix, eliminating backward energy-intensive products, phasing out obsolete high energy-intensive equipment and adopting rational energy-saving technology.

#### Case Study 1: Energy-saving refurbishment of chiller units at LYG Runzhong

During the Reporting Period, LYG Runzhong carried out an energy-saving refurbishment of chiller units at Plant J. The work altered the electricity consumption of the chiller units' wind turbines and pumps by increasing the number of converters. It is estimated that the refurbishment may reduce electricity consumption by approximately 50,000 kilowatt-hours a year.

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## Case Study 2: Collection of waste water generated by water purification equipment at CT Tianqing

The formulation and cleansing of medicine in the manufacturing process requires the use of purified water, and therefore utilises water purification equipment which generates large volumes of reverse osmosis (“RO”) concentrated water. In 2018, CT Tianqing progressively collected the RO concentrated water from its Plants 1, 2, 3, & 8 in Haizhou for reuse as supplementary water for the rooftop cooling tower, cooling water for the freeze-dryer vacuum pump, and flushing water for the animal room. It is estimated that 189 tons of RO concentrated water can be collected from the four water purification units daily, saving up to 66,000 tons of tap water per year.



### 3.3. Environmental impact

The impact of the Group’s operation on the environment is mainly concentrated on the consumption of energy and raw materials as well as the production of waste water, exhaust gas and solid waste (“Three Wastes”) in the process of production and operation. While taking a series of energy-saving measures, the Group also keeps lowering the impact on environment by strengthening the construction of environment management system, improving production technology, adopting advanced equipment, using clean energy and raw materials, conducting clean production knowledge training, and maintaining a green office, etc.

#### ■ Emissions of Three Wastes

The pollutant data for the Reporting Period is as follows:

Type of emissions	Emission/discharge	Emission/discharge intensity (per RMB10,000 production value)
Water discharged	392,571 cubic meters	0.2280 cubic meters
Chemical oxygen demand (COD) discharge	39.52 tons	0.00002 tons
Solid waste disposed <sup>(Note)</sup>	3,228.92 tons	0.00188 tons
Greenhouse gases emission	94,739 tCO <sub>2</sub> eq	0.0550 tCO <sub>2</sub> eq

(Note: the quantity of non-hazardous waste generated by the office (household garbage) is usually small and the waste has been recycled as far as possible)



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## ■ Emissions reduction measures

In respect of waste water discharge, the existing waste water of CT Tianqing is mainly generated from water processing, cleaning, testing, air conditioners and domestic sewage. The composite waste water produced in the factory is processed by the sewage treatment station of the company to meet the standard and discharged into the municipal sewage pipe network, and finally discharged outside after centralized processing in the sewage disposal plant.

The types of the solid waste include sludge, waste activated carbon, waste drugs, waste packaging materials, and household garbage, which are all collected by category, and entrusted to relevant party for treatment. Of these wastes, hazardous solid waste are all entrusted to local units with business license qualified for the collection and treatment of hazardous waste to reduce any adverse impact on the environment and protect environmental safety in the locality.

Exhaust gases are produced from the smashing process in some workshops, with a small amount of dust from the packing section and water vapour from the drying section, which are all collected by the workshop pipeline for high-altitude emission via exhaust funnels. Of the exhaust gases, dust-laden exhaust gas will undergo high-altitude emission after being processed through cloth bag dusting system.

### Case Study:

1. Waste water: The COD amount of waste water discharged by CT Tianqing was significantly lower than the Standard B in Table 1 of the Discharge Standard for Municipal Sewerage System (《污水排入城镇下水道水质标准》) (GB/T31962-2015). This was achieved by expanding the waste water treatment facility and adopting a modified anaerobic-oxic (AO) process.
2. Exhaust gases: All air-conditioners purchased by CT Tianqing use new environmental-friendly R134a rather than freon refrigerant to reduce their greenhouse gas emissions.
3. Volatile organic compounds (VOCs): Beijing Tide installed VOC treatment equipment to purify the plant's exhaust gases and reduce VOC emissions. Its VOC emissions are in full compliance with air pollution emissions standards for the local pharmaceutical industry.
4. Solid waste: LYG Runzhing carried out drying and reduction treatment for the sludge produced by its waste water treatment facility. The amount of sludge generated subsequently decreased by 60% and disposal fees were reduced.
5. Hazardous waste: CT Tianqing implemented a "Pollutant Control System" to clarify the management structure and assign responsible persons for each management task in connection with hazardous waste treatment. The enterprise also entered into annual agreements with hazardous waste treatment companies to ensure that waste is disposed of in strict compliance with the "Management Measures for the Combined Forms for Transfer of Hazardous Wastes".

## ■ Green office and travel

The Group integrates the concept of green development into every line of corporate operation. The Group actively promulgates relevant systems to advocate ways of office work and travel that have minimal impact on the environment and reduce carbon footprint starting from saving water, electricity, office supplies and printing materials, and reducing oil consumption, which not only can save energy, improve energy efficiency and reduce pollution, but is also conducive to health while maintaining efficiency.

In addition, the Group is implementing full digitalisation in an orderly fashion. We strive to achieve standardisation, integration and mobility of the IT system of various business areas, as well as taking measures such as holding more meetings by means of telephone and video, developing mobile business platform, using operation information from multiple areas for analysis and management, with an aim to realising digital control of R&D, production, marketing and back office management so as to reduce resource consumption and the impact on environment.

During the Reporting Period, the Group strictly complied with relevant laws and regulations of China such as the Environmental Protection Law, Law on the Prevention and Control of Environmental Pollution by Solid Waste, Law on the Prevention and Control of Water Pollution, Law on the Prevention and Control of Atmospheric Pollution and Law on the Prevention and Control of Environmental Noise Pollution, and there were no incidents of non-compliance with the relevant environmental regulatory requirements that had a material impact on the businesses of the Group.

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## IV. STAFF DEVELOPMENT AND PROTECTION OF THEIR RIGHTS AND INTERESTS

Adhering to the principle of people first, the Group gradually optimizes its talent management system, respects and recognizes the personal value of its staff at all times, and provides a platform for self-development and self-enhancement of staff. We value the sustainable development of talents and provide our employees with equal opportunities for growth by actively exploring and innovating training mechanism and career development channels. We have strengthened the construction of an echelon of talents to pool together outstanding personnel. We will persistently care for the staff and practise democratic management, protect the health and safety of staff and foster good labour relation as well as positive corporate culture.

### 4.1. Employment

#### ■ High-caliber, dynamic and talented team

As of 31 December 2018, we had a total of 21,498 employees, of which, 57% were male and 43% were female. The composition of our staff is characterized by relative balanced gender, younger age and high level of education.

Age structure of employees	Percentage
below 30	59%
30 to below 40	31%
40 to below 50	5%
50 to below 60	4-5%
above 60	<1%

Academic qualification of employees	Percentage
Doctor	1%
Master	9%
Bachelor	47%
Others	43%

#### ■ Protection of the rights and interests of staff

During the Reporting Period, the Group strictly complied with the Labour Law, the Labour Contract Law and other relevant laws and regulations of the China.

Both the Company and its subsidiaries have signed labour contracts with all their staff, which have stipulations on prior notice period regarding consultation and negotiation and other relevant clauses. Prior notice will be given to staff when material operational changes that may have a significant impact on staff are to be implemented.

The Group has always laid emphasis on protecting the legitimate rights and interests of its staff with assured labour rights and interests from remuneration package, recruitment and promotion, development and training, health and safety, working environment and corporate culture as well as anti-discrimination, with an aim to fostering harmonious labour relation.

It has been a consistent policy of the Group to fight against discrimination and advocate fair competition. Men and female employees enjoy equal pay for the same work. Female employees will have their jobs retained when they are in their pregnancy and lactation period. According to the law of the country, maternity leave is provided to female employees as well as male employees whose spouse has given birth. In addition, the Group does not tolerate child labour and forced labour, the principles and requirements of which were stipulated on the labour policies.

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The remuneration systems are established through a scientific and reasonable design, by taking reference to the local market and industry standard of the subsidiaries, the value of the post in concern and the performance of the staff. The remuneration level of staff has an obvious competitive edge in the industry and the place where the enterprise is located.

## ■ Absorption of talents

The Group regards the continued development of talents as an important guarantee to achieve the strategic objective of the Company. The Group offers ample room for career development of its staff through human resource management measures such as improving the talents absorption mechanism, establishing platform for career development, and regulating incentive and promotion mechanism.

In respect of optimizing external recruitment channels, our enterprises continue to bring in domestic and foreign talents through various channels such as large recruiting websites, job fairs, campus seminars and head-hunting agencies. During the Reporting Period, the Group externally strengthened the school-enterprise cooperation while internally introduced information technology tools, formalized recruitment procedure and expanded recruitment team to provide a better succession service for talents.

In determining the path of talents promotion, the Group strives to create a fair and open competition mechanism, build development platforms such as administrative sequences, technical sequences, and sales sequences, and set up corresponding hierarchies in each sequence to clarify the criteria of talent promotion and ensure each type of talents can get enough room for development in the enterprise.

### Case Study:

During the Reporting Period, Deloitte Consulting – CT Tianqing’s independent consultant – provided the latter with human resources optimisation consulting services including a systematic analysis for the refined and rationalised resources allocation for human resources. As a consequence, employee remuneration in the Company was increased.

## 4.2. Development and training

As an innovation driven pharmaceutical enterprise, the Group attaches great importance on nurturing high quality staff. By continuously exploring to improve and optimize its training system and gradually enriching training programs and content, the Group tends to make training play an increasingly important role in the process of talent cultivation and become a platform for employees to enhance their professional skills and overall quality.

### ■ Comprehensive training system

Training courses are mainly developed in respect of the following four aspects: (1) leadership training – taking leadership training as the core, training programs are designed with specific target and focusing on middle management staff; (2) occupational training – combined with the development of the “internal trainer” team, we actively develop professional capability training and general skills training; (3) new employees training – we help new employees to integrate into the working environment rapidly; (4) online enterprise school – it provides comprehensive online training resources and creates a good learning atmosphere.

### ■ Extensive training courses

A series of training courses targeting at demand of the enterprise, employees and market development have created positive impact on enhancing the capabilities of implementation and management, as well as professional quality and skills.

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## Case Study 1: CT Tianqing's training tailored for new office managers

During the Reporting Period, CT Tianqing implemented a training programme tailored for new office managers. Consisting of several modules, the training focused on management theory and coaching methods. Follow-up counselling, online knowledge enhancement and other feedback methods in the month following the programme showed its effectiveness in helping trainees improve their performance.

## Case Study 2: Financial management training for non-financial managers

In 2018, CT Tianqing commenced two “Financial Management for Non-financial Managers” training programmes for major district managers and district managers. The programme aimed to assist trainees in developing their financial management concepts and abilities, approach financial management from a strategic corporate viewpoint, interpret corporate actions by using financial mindsets, and facilitate effective communication with the finance department.



## Case Study 3: “Retrieving and Interpreting Medical Literature and Designing Real Life Research Programme” training

Reasonable design of scientific research is essential for medical research. CT Tianqing conducted training on “Retrieving and Interpreting Medical Literature and Designing Real Life Research Programme” to enhance its medical managers’ ability to interpret scientific literature, deepen their understanding of real-world research, and standardise the design of clinical research. The course provided an introduction to common clinical research methods and principles, as well as providing information on the scientific issues addressed in real-world research and details on research registration.



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## 4.3. Health and safety

The Group has always paid attention to the health and safety of employees, focusing on working protection and management of production safety, and consistently complied with relevant laws and regulations of China such as the Production Safety Law. We have used leading production equipment in the industry to regulate strictly the operation process under the pharmaceutical production quality control standards, and strengthened the training of production operation, training of production safety and safety inspection to provide a safe operating environment for employees. At the same time, we are concerned about the occupational health of employees and have provided health checkup for all staff.

### ■ Showing concern for employees' occupational health

The Company requires its subsidiaries to improve construction of the occupational health management system from assessment of dangerous and harmful factors, protection of occupational health, health checkup, file management and so on. In each year, local qualified hospitals are selected to provide general health checkup for all employees and specific health checkup for female staff. In view of possibility of staff of the production department having exposure to occupational hazards in the course of work, the enterprise provided physical examination of occupational hazards for such employees.

#### Case Study:

During the Reporting Period, CT Tianqing introduced the OHSAS18001 Occupational Health and Safety Management System and established an occupational health and safety management structure based on the EHS Management Manual and supported by 20 procedures including the Occupational Health and Safety Management Programme. Employees also received training to enhance their awareness and knowledge of occupational health and safety. At the same time, CT Tianqing formulated a “List of Dangerous Positions of Occupational Diseases” together with relevant management requirements. It required that each department sign a “Notice of Dangerous Positions of Occupational Diseases” and recommended protective measures suitable for a range of work environment hazards. Finally, it cooperated with the China Quality Certification Centre on certification of its enterprise occupational health and safety management system.

The enterprises equip their staff with standard protective gear, and through technical improvements, have succeeded in reducing and controlling such workplace hazards as dust, chemicals and noise. Through such improvements in operating conditions, the health of employees can be assured.

#### Case Study 1:

In 2018, LYG Runzhong, pursuant to the requirements of “Three Simultaneous Completion”, commenced detailed work in legal compliance, occupational health management system, dynamic update of employees' basic information, occupational diseases examination, notice standardization, systematic training, and standardization of labour protection to achieve the establishment of a sound occupational health management system and the launch of ground work in a routine manner.

#### Case Study 2:

Through the safety standardization certification, Beijing Tide systematically and meticulously manages occupational health and safety. In 2018, Beijing Tide identified and evaluated its compliance to 226 laws and regulations relevant to occupational health and safety. Safety inspections were carried on a daily basis, as well as during holidays and major events, resulting in more than 160 dangers being identified and investigated. More than 30 purchases of dangerous chemicals were reviewed, and more than 10 cases of procurement relating to materials that may be explosive and poison producing were handled accordingly.

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## ■ Adhering to safe production

Safe production is a long-term and continuous work. The Group strives to establish long-term safe production mechanism with the final goal of having zero incidents, constantly optimise safety management system, and enhance enterprise execution capacity and safety quality of employees.

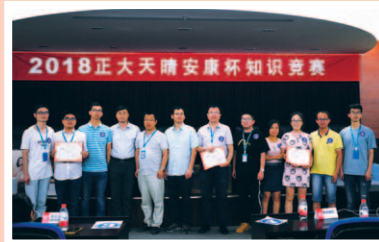
For example, the Company's subsidiaries are required to formulate annual safe production training plan, and organize the frontline production staff to actively participate in the trainings to improve the safe production awareness and related skills for all employees.

### Case study 1:

During the Reporting Period, CT Tianqing continued to follow the fundamental principle of “safety foremost with prevention-oriented and comprehensive management” while improving its safety management system, strengthening its production safety liability system, and enhancing employee awareness of production safety. CT Tianqing also promoted its safety culture with activities such as “Safe Production Month”, “Fire Safety Month”, “Working Safety Training” and “One Inspection and Three Supervisions”.

### Case study 2:

Beijing Tide is diligent in training and attaining the required qualification and certification for personnels responsible for safety, occupational and public health, and special operations. In 2018, it conducted three-level safety education training and assessment for new employees of 260 attendances, while each existing employee received 8 hours safety education. Special trainings for rescuing within limited space, first-aid and electrical safety were also introduced from time to time to further improve occupational health and safety practices at all personnel levels.



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## 4.4. Democratic management and caring for employees

Workers representatives congresses are set up in all major subsidiaries of the Company to provide protection of collective negotiation rights for employees. The workers representatives congress is an important manifestation of enterprise democratic management, so that employees can participate in the management process, having the right to know, participate in, consult and decide upon the company's management affairs; this will not only strengthen the sense of ownership of our staff, and enhance their sense of responsibility and corporate spirit, but also capture the wisdom of employees to promote healthy growth of the company.

In addition to providing employees with competitive salary, state-based paid leave and transportation subsidies, meal subsidies, special post allowance, high-temperature subsidies and festive gifts, the Group has also established a number of personalized benefit programs which can benefit the staff themselves or their families such as medical aid mechanism for critical illness.

### Case Study:

Since 2011, CT Tainqing's "Medical aid mechanism for critical illness" has aimed to ease the financial burden of employees with critical illnesses and improve their lives.

Since the establishment of the mechanism, as of the end of 2018 the Company has aided 583 employees, and a total of RMB1.884 million has been granted as a relief fund to ease somewhat the burden of medical treatment on the staff.

During the reporting period, the Group did not have any incident of non-compliance with the requirements under relevant laws and regulations in relation to equal opportunities, discrimination, harassment, occupational health and safety, child labour and forced labour.

## V. OPERATING PRACTICES

### 5.1. Supply chain management

#### ■ Strengthening supply chain management

To guarantee the purchase and use of products and services with stable and reliable quality and timely delivery, all of the Group's principal subsidiaries have established strict management systems on suppliers to standardize the selection principles, audit and appraisal methods and approval procedures on suppliers (including suppliers of materials, distributors, and providers of transportation services).

The Group continued to strengthen the management on the purchase of materials. Based on the requirements of the new version of the Good Manufacturing Practice ("GMP") and the past performance of suppliers, it conducted classified and hierarchical management on suppliers. Major materials used for production were purchased from large and professional manufacturers. Our quality departments have led the establishment of a quality audit group to conduct audit and appraisal on new suppliers. They also conduct strict inspections and grading evaluations on the quality system and the production management system as well as the quality and timeliness of products delivery of existing suppliers on a yearly basis to determine whether such suppliers continue to be qualified.

#### Case Study 1:

To ensure the quality and safety of its medicinal products, CT Tianqing strengthened its management of suppliers in 2018. The aim was to ensure the selection of reputable companies and establish a supplier profile based on GMP requirements. CT Tianqing also conducted on-site supplier reviews and annual quality assessments, and undertook stringent control on its processes of receiving goods inspection, data entry, inventory placement, and "to be inspected" labelling.

#### Case Study 2:

Since 2017, Beijing Tide has conducted year-end supplier performance and risk assessments. These evaluate various assessment criteria on a 1-to-5 star basis, and help the enterprise to make appropriate adjustments to its business volume with suppliers for the next year.



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## 5.2. Product responsibility

As a large pharmaceutical group integrating R&D, production and sale of pharmaceuticals, our business system covers the whole process from production of raw materials to sale of products. From the raw materials entering our plants to the processing of materials and the completion of product manufacturing, we conduct strict inspection on each segment and process with corresponding quality standards on internal control higher than national standards and all processes have to pass such inspection. In order to be responsible for our products and improve the availability of health products, we consistently improve product workmanship and management process to further reduce manufacturing cost and alleviate the burdens of patients.

### ■ Increasing efforts on R&D and product innovation

The Group has always been focusing on R&D and innovation and considered them as the lifeblood for the development of the enterprise. As a result, it has increased the investment in R&D and concentrated on the rapid industrialization of R&D results for new products.

#### > Widening the R&D scope

The Group's several subsidiaries, namely Nanjing Chia Tai Tianqing Pharmaceutical Co., Ltd., Jiangsu Chia Tai Qingjiang Pharmaceutical Co., Ltd. and Jiangsu Chia Tai Fenghai Pharmaceutical Co., Ltd., have been designated "Engineering Technological Research Centre for Treating Tumors and Cardio-Cerebral Phytochemistry Injections of Jiangsu Province", "Orthopedic Medicines Engineering Technological Research Centre" and "Engineering Technological Research Centre for Parenteral Nutritious Medicines" by The Science and Technology Committee of Jiangsu Province, respectively. Named by the Ministry of Personnel of the PRC as a "Postdoctoral Research and Development Institute", the research center of CT Tianqing is also the only "New Hepatitis Medicine Research Center" in the country.

In 2018, the Group made significant R&D achievements:

- The self-developed Category 1.1 multiple-targets new oncology medicine Anlotinib Hydrochloride Capsules (brand name "FOCUS V") was launched and gained widespread recognition, including the title "Award for Innovative Drug with Most Clinical Value" from China Pharmaceutical Innovation and Research Development Association and other institutions.
- In the ChemPharm Annual Summit 2018 organized by China Pharmaceutical Industry Association et al., CT Tianqing received 12 awards, including ranking 5th among the "2018 Top 100 Industrial Enterprises in the PRC Pharmaceutical Industry – Comprehensive Strength". Beijing Tide also received 3 awards, including ranking 31st on the Comprehensive Strength list.
- CT Tianqing was recognized as the "2018 Top Industrial Enterprise for Medicine Pipelines in the PRC" by the China National Pharmaceutical Industry Information Center.
- Beijing Tide was awarded as one of "2018 Innovative Pharmaceutical Enterprises in the PRC" in the 11th China Pharmaceutical Strategy Conference 2018, organized by China National Pharmaceutical Industry Information Center and other institutions.
- Production line of Tenofovir Disoproxil Fumarate Tablet (brand name "Qingzhong") of CT Tianqing received European Union GMP certification.

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- During the year, the Group was granted 23 clinical approvals, 18 production approvals including oncology medicines of 4 products and 8 specifications and 4 approvals for “Consistency of Quality and Efficacy Evaluation for Generic Drugs” (“Consistency Evaluation”), and made 10 new production applications, 3 clinical applications, 20 applications for Consistency Evaluation, and 14 production applications after the completion of bioequivalency. Cumulatively, a total of 497 pharmaceutical products obtained clinical approval or were under clinical trial or in the process of applying for production approval. Out of these, 54 were for cardio-cerebral medicines, 38 for hepatitis medicines, 206 for oncology medicines, 25 for respiratory system medicines, 26 for diabetic medicines and 148 for other medicines.

In addition, several of the Group’s innovative medicine projects have been listed as national “Major New Drugs Innovation” technology projects. These involve major diseases such as cancer, liver disease and diabetes. The number of approvals of the Group’s projects was leading among peers in the PRC.

## Case Study:

In November 2018, CT Tianqing was invited by the National Health Commission to share its management experience on special projects as the only representative of the advanced units under “Major New Drugs Innovation” at the conference of management on special projects for “Major New Drugs Innovation” and “Major Infection Diseases Prevention”.



## ➤ Internationally recognized technology innovation

The research and development ability of the Group is recognized internationally.

For instance, in the process of developing the multi-targets antitumor drug Anlotinib, CT Tianqing adhered to applying international standards. From chemical compound design screening to preclinical research and clinical trials, the quality control was carried out in accordance with the international standard of ICH (International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use). Therefore, the domestic data of Anlotinib was accepted by the US Food and Drugs Administration (“FDA”), approved for direct entry of the PIb/PIIa phase clinical trial, and obtained orphan drug qualifications for treating ovarian cancer and soft tissue sarcoma from the FDA. Its research data was presented orally among top tier international academic conferences such as American Society of Clinical Oncology and was published on various international recognized academic publications such as “JAMA Oncology”. With its high efficacy, Anlotinib was listed on the Guidelines on Diagnosis and Treatment of Primary Lung Cancer 2018 of Chinese Society of Clinical Oncology soon after its launch.

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## > Valuing the protection of patents

The Group also places emphasis on the protection of intellectual property rights. It encourages its enterprises to apply for patent applications as a means to enhance the Group's core competitiveness. During the Reporting Period, the Group has received 116 authorized patent notices (92 invention patents, 7 utility model patents and 17 apparel design patents) and filed 393 new patent applications (358 invention patents, 4 utility model patents and 31 apparel design patents). Cumulatively, the Group has obtained 683 invention patent approvals, 20 utility model patents and 75 apparel design patents.

## ■ Improving intelligent production

The production plants of the Group's principal subsidiaries are designed and constructed based on the international standards of the FDA and the EU Good Manufacturing Practices ("GMP"). The Group adopts world-class equipment for drugs production which makes up an efficient and environment-friendly intelligent production line to provide essential hardware protection for stable product quality and safety.

## > Adopting intelligent equipment

First-class equipment, leading technologies, high cleanliness production environment and strict internal control standards on quality all contribute to the stable, safe and reliable product quality of the Group.



## > Promoting lean production

The Group's principal subsidiaries have promoted lean production to reduce the resources in production and operating cost and make the production processes better align with the GMP requirements.

### Case Study:

In 2018, CT Tianqing worked to combine lean production and 5S site management with GMP to formulate a multiple site management system and optimise its production management. It also launched the campaign of building up and becoming a model production plant to enhance the quality of the production management team. CT Tianqing also implemented systems for production safety and specific project liability and implemented horizontal management. All these led to the grant of various GMP certifications from the PRC, Europe and the United States, the immediate launch of several new medicines after obtaining approvals, and the further improvement in production management.

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## ■ Improving product quality management

The product quality management system of the Group covers all processes from products R&D to technological transformation and from materials supply to production, manufacturing and products circulation. With the implementation of internationalization strategies, the Group's principal subsidiaries have conducted international certification for various products. Continuous improvements were made on plant facilities, quality control and workmanship according to the international standards of GMP of the European Union and FDA of the United States. Currently, various production lines of the Group have obtained the GMP certification from the European Union and CT Tianqing has become the first pharmaceutical company in the PRC obtaining the FDA dual system certification of medical and machinery. In addition, we have actively conducted Consistency Evaluation and technological improvements to cater for the changes in the national medicine policies.

### Case Study 1:

Regulations concerning data reliability and traceability in the pharmaceutical industry are becoming more stringent. In response, the Group has used industry research and benchmarked foreign companies' quality control experience to develop and implement a quality management information strategy.

In 2018, CT Tianqing implemented a range of information technology projects, including management systems for documents, training and laboratories. It has already completed a business processes design, a file structuring plan and a business matrix design.

### Case Study 2:

Beijing Tide established a sound drug alert quality control system, formed a basic database of adverse reaction monitoring data, and established a database of adverse reaction literatures with monitoring and guidance functions. For the drugs launched by the company, safety monitoring and risk management were enhanced while methods of collection and maintenance of safety information were expanded. The periodic summary analysis and risk-and-return evaluation of safety information were refined.

Professionals working within Beijing Tide's quality control department hold responsibility for handling product returns, complaints, investigations and processing. A telephone hotline facilitates these actions, and in 2018, a total of 184 telephone consultations were conducted to respond to customer complaints and enquiries, in a timely manner. For individual complaints, responsible personnel immediately visit the affected customer for confirmation, to gain a full understanding of the matter, and to answer any questions. This approach highlights the diligence and professionalism of the company as well as helping to ensure the delivery of safe medicines to patients.

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## ■ Improving the availability of drugs

The Group strictly abides by relevant laws and regulations of the state and emphasizes customer services during the promotion of products. We have established an efficient business network and improved the efficiency of decision-making and professional promotion to improve the availability of drugs and services and help patients in more regions to have access to our products in more reasonable ways.

### Case Study:

CT Tianqing has fully digitalised all processes from manufacturing to delivery of medicines to consumers through internet technology. The medicine circulation and inventory information are timely and effectively obtained through the technical support of data collecting and big data processing and analysis. Clear and reliable information and record are available for every process from drugs' production and leaving the factory to reaching the end-users. This provided better protection on the safety of the use of medicine for the patients.

The Group strictly complied with laws and regulations which materially affect its product safety, advertising, labeling, etc., including such as Drug Administration Law and the Regulations for the Implementation of the Drug Administration Law, Product Quality Law, the Law on the Protection of Consumer Rights and Interests, and Good Manufacturing Practice for Medical Products, and it did not commit any significant non-compliance on product safety during the Reporting Period.

## 5.3. Anti-corruption

The Group has been following the codes of ethics of a pharmaceutical enterprise of "Healthcare and Patients Orientation, Integrity, Independence, Legitimacy, Transparency and Responsibility" and attached great importance to integrity building. Based on the business nature and actual situation of the enterprise, we have established an appropriate regulatory system and internal control measures to curb corruption and fraudulent behaviours in any forms. Meanwhile, we actively infuse the staff with the integrity and law-abiding concept and require our staff to keep high ethical standards and strictly abide by current laws, regulations and relevant practice requirements.

Integrity, law-abiding and anti-corruption clauses with binding effects have been set out in the employment contracts of our staff. The staff manual also sets out the Group's aspiration and guidance on preventing corruption and fraudulent practices by the staff. We encourage the staff to directly report any behaviors breaching professional ethics to the senior management or the Department of Human Resources. We will keep the information of the informers strictly confidential and ensure that the informers will not be discriminated or retaliated.

The Group's principal subsidiaries have established stringent systems on the purchase of materials, which regulated the principles for selecting and evaluating suppliers and the approval procedures on purchasing. We make use of the bidding and tendering processes to ensure fairness and openness of purchasing. For the sale of products, the enterprises have prepared detailed code of conduct on the promotion of drugs by the sales staff, which provided clear guidance on the communication and promotion activities of the staff with professionals on pharmaceuticals and health, academic specialists and other external parties to completely eradicate any inappropriate or illegal activities.

In addition, the Group has set up an internal audit department. While conducting regular and special audits, the internal audit department will supervise the implementation of anti-fraud measures and conduct in-depth investigations on any suspicious fraudulent cases.

During the Reporting Period, we were not aware of any non-compliance with the relevant laws and regulations in relation to bribery, extortion, fraud and money laundering.

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## VI. CONTRIBUTION TO SOCIETY

As a responsible corporate citizen fulfilling the enterprise objectives of “benefit the country, benefit the general public and benefit the enterprise”, the Group provides the society with quality products and services and actively seeks solutions to social problems concerning health. It also devotes itself to consistently improving its platforms for community work and seeking more appropriate community service programs and activities to contribute to society.

### ■ Establishing community service platforms and performing responsibilities of a corporate citizen

#### ➢ Continually engaging in social assistance through donations to students, disaster relief and poverty alleviation

The Group’s principal subsidiaries have made contributions to the community in recent years through donations to students, earthquake relief, local poverty relief and other charitable activities. Meanwhile, they have actively established and improved platforms for community work. For example, the Lianyungang CTTQ Charity Foundation, which was established with donation of CT Tianqing and its senior management, continued to care about the people’s livelihood and the vulnerable groups, and carried out poverty alleviation, medical assistance and education assistance activities.

#### Case Study 1: Supporting the development of Tsinghua University

After a hundred years of development, Tsinghua University has made outstanding contributions to the development of the country and cultivated a large number of academic talents. During the Reporting Period, the Company donated RMB10 million to the Tsinghua University Education Foundation to support the construction and development of the CT Belt and Road Planning and Research Center of Tsinghua University’s Institute of International Relations(清華大學國際關係研究院正大一帶一路規劃研究中心). The center will carry out (1) research and evaluation on which industries from which countries and regions can best connect with the “Belt and Road Initiative” of the PRC, and (2) research on how to circumvent and resolve the local political, economic, investment, and safety risks of the PRC enterprises in the process of implementing the “Belt and Road Initiative”.



## Case Study 2: College scholarships

In 2018, “CT Tianqing Scholarships” provided a total of RMB0.6 million in scholarships to 193 students from Shenyang Pharmaceutical University, Nanjing Medical University and Nanjing University of Technology and other institutions.



## Case Study 3: Donating supplies and winter clothes to Hope Primary Schools

In December 2018, CT Tianqing donated school supplies and winter clothing to Lingxing CT Tianqing Hope Primary School in Santai County and CT Tianqing Hope Primary School in Baohua Township, Jiuzhaigou County in Sichuan Province. Total value of the donations was approximately RMB0.2 million. The Hope Primary Schools were built in Sichuan Province after the 2008 Wenchuan Earthquake. In the past decade, CT Tianqing has consistently provided a variety of support to both schools.



### > Promoting economic activities and actively responding to national policies

The Company has been committed to promoting communication and trade between the Mainland and Hong Kong. In April 2018, the “Belt and Road General Chamber of Commerce”, with the Company being one of the promoters, was officially established in Hong Kong. Its purpose is to bring together Hong Kong, Macao and Taiwanese Chinese business professionals to play a role in the “Belt and Road Initiative” to connect with the countries and regions along the “Belt and Road Initiative” for the industry to expand the network, explore business opportunities and carry out multi-party cooperation, and to benefit the local people and contribute to the national development strategy.

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Since its establishment, the chamber of commerce has organized a number of activities, including missions, forums, seminars, conferences, luncheons and other diverse exchanges to promote the communications and mutual understanding between the leaders of Hong Kong's industrial and commercial and professional services sectors and the officials and leaders of the corporations from the regions along the Belt and Road and explore how to leverage the unique advantages of Hong Kong to jointly open up the development opportunities of the "Belt and Road Initiative". Meanwhile, the chamber of commerce visited official institutions such as the National Information Center to promote cooperation and exchanges between both parties.



## ■ Focusing on hepatitis and improving the prevention and treatment of hepatitis in China

CT Tianqing, a subsidiary of the Company, has been a leader in drugs for hepatitis in China. Apart from providing patients with safe and effective products, it also takes active steps for improving the prevention and treatment of hepatitis in China. It has launched the "CTTQ Liver Disease Research Fund" and the "Hepatitis B elimination clinical research platform in China" since 2011 to create more social benefits in the diagnosis and treatment of hepatitis.



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## Case Study 1: Tianqing Liver Disease Research Fund

Established in 2011, the Tianqing Liver Disease Research Fund has received 1,907 project applications, funded 215 projects and assisted 84 projects which have generated more than 100 scientific research results.

Currently, the fund covers 29 provinces and municipalities across China, and its influence and aid has made it a major factor in hepatitis research. A fund extension project – “Tianqing Liver Disease Research Fund Youth College” – has been enthusiastically received, with the college’s seven training sessions thus far covering 23 provinces with nearly 1,300 participants.



## Case Study 2: Hepatitis B clinical research platform

The “Hepatitis B follow-up and clinical research platform” was initiated by the National Health and Family Planning Commission under auspices of the Chinese Foundation for Hepatitis Prevention and Control. The Hepatology Branch of the Chinese Medical Association is responsible for its operation, with CT Tianqing providing exclusive support. The platform promotes standardised diagnosis and treatment for Hepatitis B patients in China, as well as improvements to the administration of follow-up processes.

In December 2018, to expand the influence of the “Hepatitis Prevention Plan of China”, the project was officially renamed as “Hepatitis B elimination clinical research platform in China”. Its aims remain as the standardisation of hepatitis B prevention, promotion of resource sharing, and improving medical care. The platform can send reminders for further treatment and follow-ups to patients as an effective way to help them obtain better diagnosis and treatment and more health information.

Currently, the platform becomes a clinical registration platform for chronic hepatitis B patients, with the largest number of participants and registrations, the highest credibility and the strongest influence, and has attracted attention from the field of liver disease domestically and abroad. As of the end of December 2018, 53 hospitals were participating in the platform, with an approximate total of 198,000 patients registered, and follow-ups numbering more than 728,000. A summary of some data results from the platform was presented at the Conference of the American Society for the Study of Liver Diseases 2018.



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## ■ Committed to the ERAS concept and accelerating postoperative rehabilitation

ERAS (Enhanced Recovery After Surgery) is a new medical concept and therapeutic rehabilitation model for the 21st century. It aims to reduce stimulation and accelerate postoperative recovery through a series of perioperative optimisation measures as verified by evidence-based medicine. The core of ERAS – including fluid and pain management, early feeding and activity – relies heavily on implementation by a well-trained and experienced multidisciplinary team (usually consisting of anesthesiologists, surgeons, dieticians and professional caregivers). Due to its effectiveness and safety, ERAS has been adopted in many surgical fields, including orthopedics, urology, cardiothoracic, gastrointestinal, obstetrics and gynaecology, and has become the clinical path favoured by a number of European and American governments.

Beijing Tide has spared no effort to promote ERAS in China. In the past few years, its work in this area has included composing ERAS clinical paths for 27 departments of orthopedics, general surgery, thoracic surgery, urology, gynecology, anorectal surgery and other departments for the reference of clinicians, and assisting in establishing ERAS divisions in more than 400 departments at more than 130 hospitals. The purpose of the vigorous promotion of ERAS is to benefit more patients, improve the effectiveness of treatments, reduce postoperative complications, accelerate patient recovery, and reduce hospital stays and medical expenses.

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## Case Study 1: ERAS Summit

“Early Step from the Sage”, the 3rd ERAS Summit hosted by Beijing Tide, was held in Zhaoqing, Guangdong Province in May 2018. More than 300 scholars from the fields of anesthesiology, orthopedics, general surgery, thoracic surgery, urology and gynecology participated, and the application of ERAS was discussed in depth.

## Case Study 2: ERAS competition series

The 5th “Golden Hand Award” orthopedic ERAS case competition hosted by the editorial board of the Chinese Journal of Bone and Joint Surgery and organised by Beijing Tide comprised more than 100 categories, and attracted nearly 1,600 entrants from more than 600 hospitals. More than 2,000 experts provided commentary and guidance. The project was led by Academician Qiu Guixing, the chief editor of the Chinese Journal of Bone and Joint Surgery, and covered the three major areas of joints, spine and trauma.

The 5th “Strongest Accelerated Rehabilitation Case Reporting and Exchange Competition” hosted by the editorial board of the Chinese Journal of General Surgery and organised by Beijing Tide lasted nine months and comprised nearly 30 city competitions and 7 semi-finals. Entries totalled 260, with nearly 3,000 participating in all. Finals were held in Beijing in January 2019. Academician Zhao Yubei, Chairman of the Chinese Medical Association Surgery Branch, and Professor Leng Xisheng, chief editor of the Chinese Journal of General Surgery, served as presidents of the assembly.



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KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity.	3.3. Environmental impact	7
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity.	3.3. Environmental impact	7
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity.	3.3. Environmental impact	7
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<b>Aspect A3 The Environment and Natural Resources</b>			
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<b>Aspect B2 Health and Safety</b>			
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KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	5.3. Anti-corruption	20
KPI B7.2	Description of preventive measures and whistleblowing procedures, how they are implemented and monitored.	5.3. Anti-corruption	20
<b>Aspect B8 Community Investment</b>			
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KPI: Key Performance Index