

中國同輻股份有限公司

China Isotope & Radiation Corporation

(於中華人民共和國註冊成立的股份有限公司) (A joint stock company incorporated in the People's Republic of China with limited liability) 股份代號 Stock Code: 1763

2021 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT 環境、社會及管治報告

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DEFINITIONS

Unless otherwise stated, these terms are defined as follows:

PRC	People's Republic of China
Hong Kong	Hong Kong Special Administrative Region of the People's Republic of China
SEHK	The Stock Exchange of Hong Kong Limited
Listing Rules	The Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited.
ESG Reporting Guide	The Environmental, Social and Governance Reporting Guide is set out in Appendix 27 of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Ltd.
Report or ESG Report	Environmental, Social and Governance Report
ESG	Environmental, Social and Governance
Year	From January 1, 2021 to December 31, 2021
Company	China Isotope & Radiation Corporation
CIRC, Group, or we	China Isotope & Radiation Corporation and its subsidiaries
НТА	HTA Co., Ltd.
CNGT	Chengdu Gaotong Isotope Co., Ltd. (CNNC)
Headway	Shenzhen Zhonghe Headway Bio-Sci & Tech Co., Ltd.
BNIBT	Beijing North Institute of Biotechnology Co., Ltd.
NO _x	Nitrogen Oxides
SO _x	Sulphur Oxides
PM	Particular Matters

DEFINITIONS (CONTINUED)

CNNC	China National Nuclear Corporation
Jinhui Radiation	Beijing Atomic High-Tech Jinhui Radiation Technology Application Co., Ltd.
Wuhan Zhongtong Lanbo	Wuhan China Nuclear Zhongtong Lanbo Medical Laboratory Co., Ltd.
Beijing Zhongtong Lanbo	Beijing China Nuclear Zhongtong Lanbo Medical Laboratory Co., Ltd.
Chengdu Zhongtong Lanbo	Chengdu China Nuclear Zhongtong Lanbo Medical Laboratory Co., Ltd.
Anhui Young-Hearty	Anhui Young-Hearty Medical Appliance & Equipment Co.Ltd
Hazardous chemicals	Hazardous Chemical Waste
COVID-19 Pandemic	Pandemic of coronavirus disease 2019



ABOUT THE GROUP

As a leader of the isotopes and irradiation technology application industry in the PRC, CIRC has set foot in the field of isotopes and irradiation technologies and has been operating actively since its establishment in 1983. The business of the Group covers the entire spectrum of the nuclear technology application industry. Given the high entry requirements and complex technical barriers, CIRC has ample room for business expansion in addition to its existing business.

CIRC focuses on the research and development, manufacturing and sales of pharmaceuticals, and is also engaged in the business of radioactive sources, irradiation, independent clinical laboratory services and other businesses. 73.0% of its revenue and 83.2% of its gross profit are generated from the pharmaceutical business, which belongs to nuclear medical industry. As a leading enterprise in the nuclear medicine industry in the PRC, which is featured as an industry with huge potential, high entry barriers and strong profitability, CIRC is the largest manufacturer of imaging diagnostic and therapeutic radiopharmaceuticals, Uterine Balloon Tamponade kits, analysers, and domestic Radioimmunossay kits (in the PRC). CIRC has a high market share and it is the largest radioactive source products manufacturer with the most comprehensive product portfolio in the PRC. CIRC is the only radioactive source products manufacturer in the PRC having the manufacturing capability to produce various products such as Cobalt-60 for irradiation service and Cobalt-60 for medical applications. In terms of the irradiation service, CIRC is the third largest provider of such service and is the only company to provide services of the upstream production as well as downstream design and installation of irradiation facilities. The two subsidiaries of CIRC are among the three qualified EPC service providers approved by the Ministry of Ecology and Environment of the People's Republic of China to engage in the design, manufacturing, and installation of irradiation facilities in China.

As an important member of CNNC in the isotopes and irradiation technology industry, CIRC has achieved the domestication of radioisotope raw materials production as well as research and development of irradiation products by leveraging on the availability of CNNC's nuclear reactors, cyclotrons and resources on professional and technical personnel.

ABOUT THE GROUP (CONTINUED)

BRAND VALUE

Brand image is one of the most important intangible assets of an enterprise. CIRC is deeply engaged in the application of nuclear technology through products and services in a way that achieves mutual success and continues creating value for customers. In 2021, CIRC further optimised its brand positioning and brand structure system, which facilitates the transfer and accumulation of brand equity, and continues improving its brand image by implementing a brand strategy that is aligned with the current development plan.



Picture: CIRC Branding System

The core value of a brand includes brand recognition and brand resonance. CIRC always believes that "everyone in the entire value chain of the enterprise, including employees, shareholders, customers, suppliers, distributors, governments, communities and other stakeholders, should be included in the brand management system". CIRC aspires to grow together with the industry, pioneering its management practices, and has been striving to deliver CIRC's brand image through every product, every service, and every action.



ABOUT THIS REPORT

The Group is pleased to publish its fourth ESG Report, which aims to disclose and review the Group's strategies, measures, performance, and commitments in the area of sustainable development in 2021, while also responds to the key stakeholders on their concerns about the Group's sustainable development. To obtain a comprehensive understanding of the Group's sustainability performance, it is recommended to read this Report in conjunction with the "Corporate Governance Report" in the 2021 Annual Report.

REPORTING SCOPE

The scope of the Report mainly covers the Group's core businesses in Mainland China (please refer to the chapter of "About the Group" for more details). Unless otherwise stated, the Reporting Period covers 1 January 2021 to 31 December 2021, which is consistent with the 2021 Annual Report.

REPORTING GUIDELINE

The Group prepared this Report in accordance with the ESG Reporting Guide (2019 Edition) published by the SEHK. This Report complies with the "Comply or Explain" provisions of the ESG Reporting Guide and was prepared in adherence to the four reporting principles of "Materiality", "Quantitative", "Balance" and "Consistency".

Principles	The Group's Response
Materiality	The Group collects opinions from stakeholders through questionnaires and conducts a materiality assessment to identify current material ESG issues.
Quantitative	Where feasible, the Group discloses its environmental and social performance data and provides related explanations and comparable data.
Balance	The Group has identified material issues that have a significant impact on its business. Based on objective facts, this Report comprehensively discloses the Group's environmental, social and governance performances and impacts to facilitate stakeholders in their decisions or judgments making.
Consistency	The Group has adopted the consistent methodologies to allow meaningful comparisons of its ESG data over time. Changes in methodologies and reporting scope are clarified in the notes for stakeholders' reference.

ACCESS TO THIS REPORT

This report is prepared in Traditional Chinese and English. In case of any discrepancy, the Traditional Chinese version shall prevail. The electronic version of this Report could be read and downloaded from the Group's official website at https://www.circ.com.cn. If you have any questions or suggestions regarding this Report, please feel free to contact us at ir@circ.com.cn.

ESG GOVERNANCE

COMMITTING TO COMPLIANCE MANAGEMENT

CIRC is committed to upholding robust and high standards of corporate governance. In terms of the Group's governance, we have set up a corporate governance structure under which the Board of Directors is the decision-making body for compliance management, with the Legislative Affairs Committee as the subordinate leading and promoting the compliance management work. To further improve the compliance management leadership system, CIRC has established a lead agency and assigned the responsible department and personnel to carry out compliance management work. The organisational structure of compliance management in CIRC is as follows:



Picture: Compliance Management Organizational Chart of CIRC

We have formulated the *Compliance Management Policy of CIRC* in accordance with the *Guidance on Compliance Management for Central State-Owned Enterprises (for Trial Implementation)* and the *Guidelines for the Compliance Management of Enterprises' Overseas Operation* etc, to further enhance the compliance management of CIRC. The policy sets out the specific contents on compliance management work, including policy development, risk identification, compliance review, risk response, accountability, assessment and evaluation, compliance training, etc., and explicitly requires CIRC and its subsidiaries to gradually establish and improve specific compliance management systems in relevant key areas (including but not limited to marketing and sales, construction projects, safety and environmental protection, product quality, labouring, financial tax, intellectual property, business partnerships, sponsorships, donation and others). The policy also organises the combination of specific compliance management processes in the key business areas, as well as designs forms used for compliance review and compliance risk prevention and control, with a purpose of strengthening the investigation of the above business areas, and hence ensuring the Group's compliance with the law, continuously standardised management and long-term healthy development.

In addition, we believe that a sound ESG mechanism can facilitate the attainment of the Group's sustainable development goals. During the Reporting Period, the Group's Board of Directors has established an ESG working group to assist the Board of Directors in guiding and monitoring the implementation of ESG matters, including the supervision, evaluation, prioritisation, management of material ESG issues and risks, formulation and management of ESG-related goals, review and supervision of progress of the goals and continuous optimisation of the governance structure. The Board of Directors also regularly reviews and monitors the effectiveness of ESG-related risk management and internal control mechanisms, and undertakes full responsibility for the formulation of ESG strategies and related reporting.

During the Reporting Period, we conducted an ESG risk assessment and identified the following ESG risks that have a significant impact on our operations and business, and formulated management measures to mitigate the impact of ESG risks on our business.

Risk level	ESG risks	CIRC's management measures
High	Compliance Risk	 Actively respond to the risks of legal sanctions, regulatory penalties, financial losses and reputational losses, and take effective measures for compliance risk management We have established corresponding internal management policies for production, use, and sales of radioactive products. At the same time, we have implemented physical protection measures for storage, transportation and recycling of radioactive sources. We formulated radiation emergency plans, assigned environmental monitoring personnel to conduct regular environmental monitoring of equipment and conducted d education and training programmes regularly
	Research and Development	 Pay close attention to market information, trend and competitors' business activities, actively respond to market changes, accelerate our industrial distribution, occupy more market share, and provide one-stop solutions from products to services to enhance competitive edges Identify potential risks in the process of international market development and guide business units in the screening of market development risks
	Intellectual Property Management	• Revised the Administrative Measures on Technology Investment Projects of CIRC last year, which stipulates the process management of intellectual property rights for technology investment projects

Risk level	ESG risks CIRC's management measures	
	Information Security Management	 Formulated internal policies such as <i>Regulations for Privacy</i> <i>Management of CIRC</i> and the <i>Administrative Measures for Business</i> <i>Secret of CIRC (Temporal)</i> to clarify the scope of trade secrets, including important customer and supplier data, and other market information and business information such as market procurement and marketing plans, market forecasts, production and sales strategies, business channels, sales methods, production costs, etc. Require the employment contracts include trade secret protection clauses to strictly control the scope of knowledge of trade secret matters The Confidentiality Office of CIRC, as the daily office of CIRC's confidentiality work, is responsible for organising and carrying out education and training on trade secret protection, confidentiality inspection, confidentiality technology protection, and investigation and the file file file file file file file fil
		handling of confidential information leakages in accordance with the law
		• Actively organise various forms of publicity, education, and training activities on trade secret protection, such as marketing training, to improve the confidentiality awareness and prevention skills of trade secret management personnel and personnel who can access to trade secrets matters

FOCUSING ON INTEGRITY MANAGEMENT

The Group is committed to operating in a clean, honest, open, and transparent manner, and strictly abides by the laws and regulations related to the prevention of bribery, extortion, fraud, and money laundering, including but not limited to:

- The Criminal Law of the People's Republic of China;
- The Company Law of the People's Republic of China;
- The Securities Law of the People's Republic of China;
- The Anti-Money Laundering Law of the People's Republic of China;
- Several Provisions on the Integrity of State-owned Enterprise Leaders;
- The Law of the People's Republic of China on Administrative Punishment of Public Officials;
- The Prevention of Bribery Ordinance of Hong Kong; and
- The Securities and Futures Ordinance of Hong Kong.

Our compliance management department attaches great importance to anti-corruption and anti-commercial bribery. To improve the level of corporate governance, The Group strictly implements the *Management Measures of Anti-fraud in CIRC*. These measures apply to the headquarters and all business units of CIRC, specify the anti-fraud work of the senior management, and integrate the continuous supervision of fraud behaviour into daily operations. At the same time, the permanent anti-fraud institution is stipulated to receive, investigate, report, and advise on fraud reports. In addition, the *Code of Conduct* requires all employees to strictly comply with relevant standards. For example, the chapter of "Committing to Compliant Management" clarifies the requirements of anti-corruption work when conducting drug promotion and medical interaction and communication with medical professionals and medical institutions.

Leadership responsibility	Refers to relevant management personnel who are responsible for causing inaccuracies and hidden losses in accounting information for corruption due to their dereliction or negligence within their supervisory or subordinate scope of work
Direct responsibility	Refers to relevant management personnel and executives who are held liable for causing accounting information distortion and hidden losses due to their direct operation or involvement in the concerned decisions, or their authorisation, instruction, order, connivance, harbouring, and other fraud and failure to perform duties appropriately.

Accountability for fraudulent behaviour

To fully understand the importance of overseas anti-corruption and anti-commercial bribery risks, we have also formulated the *CIRC Overseas Anti-Corruption Compliance Guidelines* to provide specific, clear, and feasible guidelines to align with the requirements of overseas anti-corruption and anti-commercial bribery, which facilitates accurately identifying and effectively preventing and managing overseas anti-corruption risks, and in turn improving the compliance management system, and enhancing compliance management capabilities.

In order to strengthen the governance and internal control of anti-fraud work, the Group has issued the *Announcement on Standardising the Receiving Channels of Whistle-blowing* and *China Isotope & Radiation Corporation Management Rules for Letters, Visits,* and *Whistle-blowing.* We have designated a reporting hotline, an email address, and other channels, to actively ensure the reporting channels are accessible and effective. The reporting hotline number and e-mail address are publicly available, and the reporting mechanism accepts reports from employees at all levels and other parties with whom the Group has direct or indirect financial relations on issues such as violations of professional ethics and damage to the interests of both parties. The reporting content and the information of the whistle-blowers will be strictly protected to ensure a fluent and efficient reporting channel. Employees who violate the internal policies will be treated in accordance with the violation of work or organisational discipline. Should there be any violation of the criminal law, relevant cases shall be transferred to the judicial authority according to the relevant law.

In addition, the Group actively promotes anti-corruption capacity building. The Group publishes and promotes anti-fraud policies and measures through employee handbooks, office automation (OA) system, training, etc, so that the requirements of anti-corruption and integrity can be fully implemented in the Group's daily operations. We launched an anti-corruption education month to promote the political judgment, political understanding, and political execution of the Group. The education month activities included: holding a knowledge competition of "Learning Party History and Understanding Ideology", organising an on-site visit to the Red Building of Peking University, producing a video named "Cloud Tour", studying and learning from excellent books, participating in a warning education case named "Changes in Life" and carrying out integrity learning and training for new employees. The business units will also promote anti-corruption education in various forms such as drama, integrity comic sand painting, and mini classes. Details of the activities, publicity, and activity highlights were released through various channels such as the OA system and WeChat official account to promote the Group's anti-corruption culture, which continuously enhances the integrity awareness of employees and directors.



Picture: Anti-corruption and Integrity Education Month

During the Year, the Group did not receive any reports regarding violations of laws and regulations related to bribery, extortion, fraud, and money laundering, nor did it have any material violations of laws and regulations related to anti-corruption or concluded corruption lawsuits.

Case: Anti-corruption training provided to directors and all employees

From September 13th to 18th of 2021, Wang Suohui, Executive Director, General Manager and Deputy Secretary of the Party Committee of CIRC, Liu Zhonglin and Chen Shou Lei, Vice Chairman of CIRC, Liu Xiuhong, Non-Independent Non-Executive Director, Tian Jia He, Independent Non-Executive Director, Zhang Guo Ping, Supervisor of the Company, and Li Chao, Deputy General Manager of CIRC, and other six business units visited Shenzhen and Chengdu to carry out field research. During the research, all members received training on the "Introduction to Recent Compliance in Hong Kong Market", which provided key tips and training on recent compliance matters, as well as the *CIRC Overseas Anti-Corruption Compliance Guidelines*, with which all employees were required to comply.



COMMUNICATING WITH STAKEHOLDERS

To continuously promote the Group's sustainable development, we maintain close and effective communication with our stakeholders. The Group has been actively communicating with stakeholders through various channels to understand their needs, concerns, and expectations on sustainability issues. On this basis, we fully consider and respond to the demands of our stakeholders through the Group's daily operations and decision-making process, and actively fulfil corporate social responsibilities to achieve mutual improvement and development. The Group's stakeholder groups, communication channels, and sustainability issues of concern are listed in the table below.

Stakeholder Groups	Communication Channels	Focus on Sustainability Issues
Shareholders	 Corporate reports and other announcements Shareholder meetings Official website 	Economic performanceCorporate governanceCompliant Operation
Government and Regulatory Authorities	Corporate reports and other announcements	Compliance with relevant laws and regulationsTax according to the law
Employees	Employee discussion forumTrade union activitiesEmail	 Employees' rights, benefits, and development Health and safety
Customers	Customer visitCustomer service satisfaction surveys	Product qualityHigh-quality service
Suppliers	Public tenderInterview and email	 Fair and open tendering process Win-win Collaboration
Local Community	Charitable activities	 Compliance with relevant laws and regulations Community engagement Environmental protection



Materiality Assessment

To respond to the sustainable development needs of various stakeholders in a timely manner, and effectively manage and report on issues that have a significant impact on both the Group and stakeholders, the Group continued to conduct a materiality assessment during the Year to determine which issues should be focused on for reporting. The specific process of materiality assessment is as follows.

Identification	 Collaborating with various stakeholders to understand their expectations, and with reference to the ESG Reporting Guide, industry benchmarking analysis and corporate development characteristics, the Group reviewed and shortlisted a total of 28 sustainability issues (9 environmental issues and 19 social issues) to form the pool of sustainability issues for 2021.
Ranking	• The Group invited internal and external stakeholders, including the management, employees, shareholders, government, and regulatory authorities to participate in the materiality assessment via an online questionnaire, where the sustainability issues in the pool were ranked according to the levels of attention paid. A total of 455 valid questionnaires were received.
Evaluation	 The Group examined the materiality of the issues based on two dimensions of "the impact on CIRC" and "the impact on stakeholders". Issues that scored half or above in both dimensions are considered as material issues. As a result, 6 material issues in the environmental aspect and 12 material issues in the social aspect were identified.
Review	The Group reviewed and confirmed the screened material issues, thereby disclosed accordingly in the Report.

The materiality matrixes which present the results of our materiality assessment in environmental and social aspects respectively are shown below.





According to the results of the materiality assessment, the Group classified the sustainability issues into Tier 1, 2, and 3 issues, in which the Tier 1 issues was identified as material issues. We will provide response to those material issues and detail our strategies and performance in the Report. We will also disclose certain practices related to the Tier 2 issues in this Report.

Issues	Environmental Aspect	Social Aspect
Tier 1 issues ¹	 Wastewater discharge and management Exhaust gas emission and management Generation and management of solid waste Water usage and efficiency Energy usage and efficiency Protecting the environment and natural resources 	 Compliant operation Autonomous technology innovation Improving the ability to sustain profitability Employee health and safety Product safety management system Product responsibility Quality control system Construction of the culture of integrity Employee training and development
		Customer satisfactionBrand managementEmployment Management
Tier 2 Issues ²	GHG emissions and management	Supply chain managementHealthcare accessibilityEmergencies management
Tier 3 Issues ³	Packaging material usageTackling climate change	 Promoting industry development Prevention of child labour and forced labour Public health management Clinical trial approval procedures Community investment

¹ Issues distributed in the blue area of the materiality matrix

Issues distributed in the grey areas of the materiality matrix

³ Issues distributed in the white area of the materiality matrix

REDUCING ENVIRONMENTAL FOOTPRINTS

The Group understands that environmental protection is an irreplaceable part of an enterprise to achieve its sustainable development goals. We strive to further alleviate the impact of the Group's business operations on the environment by implementing environmental protection measures to optimise the use of resources and reduce pollutants emissions in daily operations.

The Group abides by the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on Prevention and Control of Radioactive Pollution, the Law of the People's Republic of China on Environmental Impact Assessment, the Soil 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 Water Pollution Prevention and Control Law of the People's Republic of China, the Atmospheric 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 Wastes, the Energy Conservation Law of the People's Republic of China, the Law of the People's Republic of China, etc., and other laws and regulations related to air and GHG emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.

On the basis of complying with the laws and regulations, the Group has formulated internal management policies such as the Management Measures on Safety and Environmental Protection of CIRC, the Management Measures on Environmental Protection of CIRC, the Safety Production and Environmental Protection Responsibility System, the Onsite Environmental Monitoring Programme, the Regulations of Management of Personnel Transporting Radioactive Item, the Regulations of Award and Penalty of Radioactive Waste Management Regulations of Dangerous Goods, the Implementation Rules for On-site Collection and Classification of Solid Waste and Security Environmental Management Measure, etc., to strengthen the regulatory behaviours in respect of emissions management, resources use and the reduction of significant impacts on the environment and natural resources.

In addition, we have obtained certification under *ISO14001:2015 Environmental Management System* and ISO/ IEC 17025: 2017 *The General Requirements for the competence, impartiality, and consistent operations of laboratories*, which ensures that the working environment of radiation laboratories and other workplaces is safe while preventing relevant significant impact on the environment.



During the Reporting Period, the Group did not have any incidents of non-compliance with relevant environmental laws or regulations that have a significant impact on the Group relating to air and GHG emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.



Picture: ISO14001: 2015 and ISO/IEC 17025: 2017 certificates



EMISSIONS AND WASTE MANAGEMENT

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chapter)

The Group pays close attention to emissions and waste management issues, aiming to reduce air pollutants and GHG emissions. To this end, the Group has implemented a series of management measures, including:

Encourage employees to use public transportation as much as possible when commuting to work

Replace business trips with dial-in conference calls

Provide vehicle management, for example, *BNIBT's Regulations for the Management of Motor Vehicles* specifies that full-time drivers should repair and maintain their vehicles diligently in a timely manner to improve vehicle efficiency and reduce fuel consumption

Reduction of resource use (as described in the "Efficient use of energy and water resources"

In addition, we have set different targets and action plans with the goal of promoting green mobility and have assigned specific departments to be responsible for the implementation to further reduce GHG emissions from vehicles. Looking forward, we strive to strengthen the management of official vehicles, record the fuel consumption of official vehicles, and conduct regular maintenance. We will also gradually replace our official vehicles with models that reduce emissions from vehicles with relatively higher emissions. In addition, business travel also generates a large amount of GHG and air pollutant emissions. Therefore, we aim to reduce unnecessary business trips and encourage all business units and employees to hold online meetings to minimise the offline meetings.

Due to the nature of the nuclear medicine business operated by CIRC, we strictly manage the waste discharge generated from production and aim to reduce the impact of waste on the environment. The types of waste generated by the Group in its production and operation activities include hazardous waste and non-hazardous waste. To properly treat the radioactive "Three Wastes" (solid waste, wastewater, and waste gas), the Group strictly abides by the *Regulations on the Safety Management of Radioactive Waste* and other relevant regulations and has formulated the *Regulations on the Administration of Radioactive Waste of CIRC, the Radioactive Waste Management System*, the *Administrative Measures on Radioactive Waste of BNIBT and the Regulations on Safety Management for radioactive "Three Waste" of HTA* and other policies. The Group also strengthens the management of radioactive wastes in the production, collection, and disposal process in accordance with the principle of "Minimising Generation, Collecting by Categories". The radioactive waste collected through sorting will be temporarily stored in the Group's waste repository. Depending on the capacity of the inventory, we will send the waste to the city's waste repository for disposal. We strictly prohibit the mix disposal of radioactive waste and non-radioactive waste to reduce the pollution from the Group's production and research activities to the minimum extent.

Solid waste	 Separating radioactive waste into different packages and storage sites Radioactive waste stored at temporary storage sites should be sealed, labelled and their information should be documented Transferring or sending radioactive solid waste to qualified waste treatment organisations according to requirements, completing handover procedures and keeping records
Wastewater	 Strong acidic and organic radioactive wastewater are forbidden to be discharged into radio- active liquid pipelines. Instead, they should be collected separately in special packaging and safely stored by the generating units. Then, they should be documented in details before being delivered and stored by the Company
Waste gas	 Purification and filtration of radioactive waste gas produced from both Class A and Class B worksites are required, then waste gas is discharged into the atmosphere through a specific exhaust duct after confirming compliance with the required standards Purification and filtration of radioactive aerosols (including cobalt ⁶⁰Co aerosols) generated during the operation of radioactive sources by a nuclear grade filter is required before discharge, with the implementation of internal routine monitoring and external periodic monitoring Volatile reagents (methanol, trimethylbenzene, and ethanolamine) are enclosed in reagent containers and configured in the fume hood, after which they are sealed in product containers, and the entire subsequent production process is in an enclosed state, with the volatile organic matter being treated by an activated carbon filter before discharge

Figure: Specific treatment requirements of radioactive "Three Wastes"

Headway, a subsidiary of the Group, has reduced the generation of laboratory waste and radioactive waste through strict management of waste sorting and collection, changing sampling methods and inspection methods, and has successfully reduced 200kg of radioactive waste during the Reporting Year. The discharge of hazardous waste and liquid waste has also decreased as compared with 2020.

To properly manage non-radioactive waste, the Group has formulated the *Regulations on Safety Management* of Hazardous Chemicals, Rule for storage of chemical dangers in accordance with relevant laws and regulations such as the *Regulations on Safe Management of Hazardous Chemicals*, the *Rule for Storage of Chemical Dangers*, etc. According to the *Waste Sorting, Collection, and Disposal Management Regulations*, the Group sorts the general industrial wastes into two categories, namely recyclable and non-recyclable, which are stored in special industrial garbage bins, and are collected and delivered to the waste recycling department for disposal. For non-hazardous wastes such as paper, plastics, glass, metal, and domestic waste, the Group delivers them to the waste recycling station or entrusts third-party units to recycle and disposes them daily.

For hazardous waste, relevant national regulations, the *Industrial Waste Management System*, and the *Management Measures for Hazardous Chemicals and Precursor Wastes* formulated by the Group are strictly enforced. Hazardous wastes are collected by category, stored in hazardous waste repositories in special containers, and labelled with hazardous waste tags in compliance with the requirements to prevent secondary pollution. For hazardous chemicals, the Group entrusts qualified third-party organisations to handle them in accordance with regulations.

Specific requirements of handling hazardous chemicals by the Group

- Records the type, nature, quantity, concentration, storage location, storage measures, and the disposal site of waste hazardous chemicals
- Takes unified record for both production and treatment of hazardous chemicals (liquid, solid) as to prevent illegal abasement or loss
- Collection, temporary storage, declaration, and disposal of waste hazardous chemicals should be handled by designated personnel, arbitrary discard or disposal are prohibited
- Containers and packaging that conform to relevant standards are used for the collection and storage of waste hazardous chemicals, and measures are taken to prevent leakage during storage

In addition to proper waste treatment, the Group recognises that facility management is also important to reduce emissions and relevant impact. We conduct regular maintenance on our environmental protection equipment and facilities to ensure that pollutants are effectively treated and discharged in compliance with the relevant standards. The Group allocates resources to instruments and equipment that meet the requirements of on-site monitoring and designated specific personnel to be responsible for the Company's environmental protection work. Headway has also set up alarm devices, formulated emergency drills, inspected and repaired alarm equipment and facilities at locations where environmental hazards are prominent. We also carry out comprehensive risk identification and potential hazard investigation and are subject to the supervision and inspection work.

The Group is committed to reducing waste generation by setting waste reduction targets, including increasing waste recycling rate and reducing waste at source. In terms of recycling, we continue enhancing the office waste recycling system and actively carrying out office wastepaper recycling and electronic equipment recycling. At the same time, to effectively sort and recycle waste, we have set up four types of waste separation bins in each business unit, including other waste, recyclable waste, hazardous waste, and food waste. In terms of reducing waste at source, we encourage employees to reduce the use of disposable materials and purchase reusable tableware for employees.

In our daily production and research work, the Group requires responsible departments to adopt all reasonable and feasible process improvement and management measures (such as using advanced automated equipment) to continuously optimise production processes, and reinforce the maintenance of equipment and facilities to reduce waste caused by equipment operation problems. In addition, we strengthen the education and training of relevant personnel, standardise work processes, reduce the waste generated due to human mistakes, and strive to reduce waste generation at source and reduce environmental pollution.

EFFICIENT USE OF ENERGY AND WATER RESOURCES

In response to the call of the state on energy saving and emissions reduction, the Group has continued implementing the Cost Reduction and Efficiency Enhancement Plan, aiming to achieve lean management, cost reduction and efficiency enhancement in the areas of production, technology transformation, on-site management, energy and water management, logistic management, etc. With the goal of improving energy efficiency and water efficiency, we have formulated the following management measures to effectively reduce the consumption of natural resources.

Use of Resources	Management Measures	
Energy use	 Post environmental protection slogans of "Save electricity" Control the temperature of air-conditioner; indoor air-conditioners' temperature could not be lower than 26°C in summer and not be higher than 20°C in winter Shut down computers' monitors and other electrical equipment after work Use energy-saving lighting devices (such as LED) Use energy-saving devices (such as grade 1 energy-efficiency labelled devices Headway replaced the lights in certain areas with voice-activated lights 	
Use of water resources	 Post the environmental protection slogan of "Save Water" Promote water-saving awareness and guide employees to use water rationally Use water-saving systems and appliances 	
Office supplies	 Post the signs of "Save Paper" in key locations Encourage duplex printing to reduce paper use Promote the use of OA system 	
Packaging materials	 Implement the recycling system of packaging materials to reuse most of the packaging materials 	

To achieve long-term stable and sustainable development and enhance market competitiveness under the new norm, the Group encourages its subsidiaries to reduce the consumption and avoid waste of resources such as energy, water, and other raw materials.

In terms of improving water use efficiency, the subsidiaries have successively implemented a wastewater recycling system to recycle wastewater generated from cleaning and the preparation of purified water, which is also ultimately reused for plant greenery. During the Year, the Group did not encounter any difficulties in obtaining water resources.

Headway has formulated the *Environmental Monitoring Plan* to manage the discharge of industrial wastewater, standardise the monitoring and handling procedures, and comply with Class III standards of the *Environmental Quality Standard for Surface Water (GB3828-2002)*. Industrial wastewater is recycled and reused through the wastewater treatment stations in the plant. Wastewater that contains organic wastes (such as wastewater from cleaning of liquid dispensing tanks) is collected in a unified manner and entrusted to companies with hazardous waste treatment qualifications for treatment and external discharge is strictly prohibited. Meanwhile, domestic sewage is treated in accordance with the Class III standard in the second period of the *Guangdong Province's Water Pollutant Emission Limits*, and a regular environmental and sewage quality testing is conducted regularly. Headway has a separate sewage treatment station that can treat 20 to 30 cubic metres of sewage per day. The treated sewage will be used for toilet flushing systems, saving 20 cubic metres of water per day.



Picture: HTA water system wastewater recycling and reuse project

PROTECTION OF ENVIRONMENT AND NATURAL RESOURCES

The Group is prudent in managing the possible impact of its operations on the surrounding environment. We have been insisting our subsidiaries to implement radioactive solid waste minimisation control measures by specifying the amount of radioactive solid waste that can be generated in the year in the annual safety and environmental protection target responsibility statement. During the Reporting Period, we renovated our non-enclosed radioactive material workplaces for discharging radioactive gases to enhance the control of radioactive gases in our non-enclosed radioactive material workplaces and further improve the quality of our radioactive workplaces and the surrounding environment. According to the *Procedures for Identification, Evaluation, and Control of Environmental Factors* policy, each business unit is required to identify environmental factors and significant environmental factors regularly and determine corresponding control measures.

To reduce the impact of the Group's operation on the environment and natural resources, the Group has adopted various practical measures. When constructing, renovating, rectifying, operating, and decommissioning radioactive workplaces, the relevant implementation unit must fully implement the requirements of "Three Simultaneousness" System, in which the pollution prevention and control facilities in construction projects should be designed, constructed, and operated simultaneously with the main construction works. The Group also conducts environmental impact assessment and final inspection and acceptance, monitor and implements risk prevention measures to ensure that relevant environmental risks can be controlled. In addition, the Group has formulated the *Comprehensive Emergency Plan for Work Safety Accidents, the Emergency Plan for Radiation Safety Accidents,* and the *Emergency Plan for Industrial Work Safety Accidents* to avoid leakage accidents and reduce the impact of accidents on the environment.

In the future, CIRC will continue to implement the concept of "Lucid waters and Lush Mountains are Invaluable Assets", following the path of green development, vigorously carrying out green production, adhering to safety and environmental protection first, and striving to become the leader and main force in the construction of ecological civilisation.

RESPONDING TO CLIMATE CHANGE

With the growing domestic and global concern about climate change issues, the Group is fully aware of the climate risks associated with its business. To this end, we have developed strategies to address the potential risks posed by climate change. The Group requires each subsidiary to carry out risk identification regularly every year. For example, for Headway, the main physical risks identified are extreme weather events and natural disasters, such as typhoons and rainstorms.

For such purpose, Headway has formulated the *Environmental Plan of Headway*, established a special environmental emergency response working group to tackle extreme weather events and natural disasters that may affect the business, and formulated corresponding measures and procedures for different weather conditions, including formulating early warning conditions, and classifying the relevant events into different warning levels. According to the corresponding warning levels, emergency plans for corresponding events are activated to minimise the impact of extreme weather events and natural disasters on the business.

OVERVIEW OF ENVIRONMENTAL PERFORMANCE⁴

	Unit	Data of 2021	Data of 2020
Air Pollutant Emission			
NOx emissions	Tonnes	0.37	2.77
SOx emissions	Tonnes	0.01	1.89 x10 ⁻³
PM emissions	Tonnes	0.03	0.08
Greenhouse Gas (GHG) Emissions			
GHG Emissions (Scope 1)5	Tonnes of CO ₂ equivalent	436.31	821.01
GHG Emissions (Scope 2)6	Tonnes of CO ₂ equivalent	5,858.30	5,535.62
Total GHG emissions	Tonnes of CO ₂ equivalent	6,294.61	6,356.63
Total GHG emissions intensity	Tonnes of CO ₂ equivalent/		
	100 million yuan	159.06	233.75
Energy use			
Purchased electricity consumption7	kWh in '000s	10,033.06	6,182.51
Intensity of purchased electricity consumption	kWh in '000s/million yuan	253.52	227.35
Purchased steam consumption ⁸	kWh in '000s	491.70	2,315.17
Intensity of purchased steam consumption	kWh in '000s/million yuan	12.42	85.13
Gasoline (mobile source) consumption	kWh in '000s	136.18	227.56
Intensity of gasoline (mobile source) consumption	kWh in '000s/per gasoline vehicle	9.07	11.38
Diesel (mobile source) consumption	kWh in '000s	512.53	896.80
Intensity of diesel (mobile source) consumption	kWh in '000s/per diesel vehicle	46.59	44.84
Total water consumption	Tonnes	61,542.00	46,976.00
Intensity of water consumption	Tonnes/100 million yuan	1,555.09	1,727.42
Packaging materials			
Total packaging materials	Tonnes	172.30	372.02
Intensity of packaging material	Tonnes/100 million yuan	4.35	13.68

⁴ If not otherwise specified, the Group's environmental statistics for the current year will be the same as those for 2020.

- ⁵ Greenhouse gases are generated by the vehicles, machinery, diesel generators and consumption of refrigerant during the Year as direct emissions and greenhouse gas reduction for newly planted trees. Calculations of greenhouse gas emission refer to *Appendix 2: Reporting Guidance on Environmental KPIs* published by HKEX, *Guidelines for the Accounting and Reporting of Greenhouse Gas Emissions from Land Transport Companies (Trial)* published by the Ministry of Ecology and Environment of the People's Republic of China and *Guidelines for the Accounting and Reporting of Greenhouse Gas Emissions from Industrial Enterprises in Other Industries (Trial)* published by the National Development and Reform Commission of the People's Republic of China.
- ⁶ Greenhouse gases are generated from consumption of purchased steam and electricity as indirect emission. Calculations of greenhouse gas emission refer to the *Guidelines for the Accounting and Reporting of Greenhouse Gas Emissions from Industrial Enterprises in Other Industries (Trial)* and the Nation Grid Average Emission Factor in the *Guidelines for Accounting and Reporting Greenhouse Gas Emissions for Power Generation Facilities (2021 Revision)* issued by the Ministry of Ecology and Environment of the People's Republic of China.
- ⁷ During the Year, the Group has been preparing for the addition of new production sites and resumed full operation due to an improvement in the pandemic situation, which resulted in a significant increase in purchased electricity.
 - In 2020, purchased steam was disclosed in tonnes. In order to optimise the calculation method to reflect the actual consumption more accurately, the Group adjusted the calculation unit to kWh in '000s this Year. The data for 2020 has been recalculated to enhance its comparability.

	Unit	Data of 2021	Data of 2020
Hazardous Waste			
Hazardous chemicals generated	Tonnes	0.86	5.18
Intensity of hazardous chemicals produced	Tonnes/100 million yuan	0.02	0.19
Radioactive waste			
Generation of radioactive waste gas	Cubic metres	36,235,630	6,445,000
Generation intensity of radioactive waste gas	Cubic metres/100 million yuan	915,630.77	236,997.52
Generation of radiation source	Pieces	470	2,847
Generation intensity of radiation source	Pieces/100 million yuan	11.88	104.65
Generation of low-level solid radioactive waste	Tonnes	39.69	11.67
Generation intensity of low-level			
solid radioactive waste	Tonnes/100 million yuan	1.00	0.43
Generation of low-level liquid radioactive waste	Tonnes	8.66	5.98
Generation intensity of low-level liquid			
radioactive waste	Tonnes/100 million yuan	0.22	0.22
Non-hazardous Waste			
Non-radioactive waste			
Generation of waste packaging materials	Tonnes	59.42	19.20
Generation intensity of waste packaging materials	Tonnes/100 million yuan	1.50	0.71
Generation of office paper	Tonnes	3.60	9.72
Generation intensity of office paper	Tonnes/100 million yuan	0.09	0.51
Generation of domestic waste	Tonnes	92.4	216.11
Generation intensity of domestic waste	Tonnes/100 million yuan	2.33	11.26
Wastewater discharge			
Wastewater discharge	Cubic metres	17,441.29	41,303.30
Intensity of wastewater discharge	Cubic metres/100 million yuan	440.72	1,518.82

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RESPONSIBLE SUPPLY CHAIN

The Group has established close partnership with its business partners to build a mutually trusting and winwin relationship with suppliers based on the principle of "Openness, Fairness, Justice, Merit Selection, Honesty and Trustworthiness, Standardisation and Efficiency, and Guarantee Supply". The Group strictly abides by the *Bidding Law of the People's Republic of China*, the *Regulation on the Implementation of the Bidding Law of the People's Republic of China* and other laws and regulations, and conducts supplier management in accordance with the *Administrative Measures on Suppliers Management of CNNC* and the *Supplier Management and Control Procedures*. Based on the compliance with laws and regulations, we have further formulated relevant policies such as the *Administrative Measures on the Procurement in CIRC, the Administrative Measures on the Bidding in CIRC*, and the *Administrative Measures on the Non-bidding in CIRC*.



Figure: Factors for suppliers' assessment

RESPONSIBLE SUPPLY CHAIN (CONTINUED)

We classify suppliers into core suppliers, important suppliers, and general suppliers based on the above factors. The core suppliers and important suppliers are recognized as qualified suppliers of CNNC, while general suppliers are registered suppliers of CNNC's electronic procurement platform. To achieve effective management of suppliers, the Group requires each subsidiary to establish a supplier management system which is led by the safety, environmental protection, and quality department and the user department, procurement department, warehousing management department, and after-sales service department coordinate and share information. At the same time, each subsidiary is required to establish a dynamic and quantitative assessment and management system for suppliers. The Group reviews and engages suppliers in accordance with the system and the documents filed against the National Medical Products Administration, and along with the measures to deal with supplier violations.

Supplier Data	2021
Total number of suppliers	761
By geographical region	
Hong Kong	4
China Region	674
Overseas	83

In the process of suppliers' assessment, the Group emphasises the social and environmental responsibilities and performances of suppliers. According to the regulations of CNNC, supplier management is implemented through on-site assessments, data review, and record-filing review. During the Year, the Group has implemented the above practices on all the suppliers. Moreover, each subsidiary has formulated its supplier management system, for example, the *Supplier Management Regulations of HTA* stipulates that the quality assessment methods of suppliers are divided into document qualification audit, on-site quality audit, written audit and sample test, and specified that personnel participating in the on-site quality audit should confirm the supplier's qualification certificates in the important supplier's on-site quality audit report, including whether there is a Good Supply Practice for Pharmaceutical Products (GSP) certificate, Good Manufacturing Practice for Pharmaceutical Products (GSP) certificate, Environmental Management System Certificate, and Occupational Health and Safety management system certificate, etc.; and the personnel participating the on-site quality audit of key raw and auxiliary materials should record relevant information on the supplier's plants, facilities, equipment, etc.

In terms of procurement, we have formulated a catalogue of strategic procurement products and competitive products, and required each subsidiary to establish a procurement plan compilation and review procedure, clarifying the division of responsibilities, achieving unified management of procurement plans, and implementing the procurement in accordance with the approved procurement plan and national laws and regulations and relevant regulations of CNNC. All kinds of procurement activities (except for emergency procurement, bidding procurement implemented on the public resources trading platform in accordance with relevant national regulations, and confidential procurement) should be conducted through the electronic procurement platform of CNNC. We carry out the bidding of construction projects and the relevant non-bidding procurement projects in accordance with the Administrative Measures. The specific procedures for tendering generally include publishing tender announcements, conducting qualification reviews, forming tender evaluation committees, initiating tenders, tender evaluation, announcing and finalising the tender, etc.

RESPONSIBLE SUPPLY CHAIN (CONTINUED)

To identify the environmental and social risks in the supply chain, the Group evaluates matters that may give rise to environmental and social risks from time to time, and proposes effective control measures. Taking compliance risk as an example, CIRC comprehensively carries out compliance risk investigation and control work and requires promotion service providers (CSO companies) to issue anti-commercial bribery and non-related relationship commitment letter to ensure proper business dealings in the course of cooperation with CIRC and the integrity of promotion service activities.

While developing its business, the Group recognises the importance of integrating environmental protection into its supply chain. Therefore, we give priority to suppliers that comply with the local government's environmental protection policies when purchasing materials and goods, to ensure that the procurement is in line with the Group's green procurement concept.



PRODUCT RESPONSIBILITY MANAGEMENT

The Group has formulated the *Brand Construction Management Outline* to further optimise the definition and structure of the brand system, forming a brand cultivation atmosphere in which "Everyone is a spokesperson for the CIRC Brand" through the *Brand implementation Manual* and multiple brand trainings.

Based on the brand strategy that is closely attuned with the current development stage, we aim to achieve two-way transfer of brand equity, accumulation of brand assets, and improvement of brand value and continue to promote the CIRC brand and the development of the industry with practical actions. We are committed to guaranteeing the quality of our products and focusing on innovative research and development. We expect to introduce high-quality products to the market while optimising our brand structure to enhance our brand influence.

FOCUSING ON PRODUCT SAFETY

The Group strictly complies with laws and regulations related to health, safety, and methods to redress the products and services, such as the *Product Quality Law of the People's Republic of China*, the *Production Safety Law of the People's Republic of China*, the *Production on the People's Republic of China*, the *Regulation on the Safety and Protection of Radioisotopes and Radiation Devices*, the *Regulation on the Administration of Transport Safety of Radioactive Articles*, the *Measures for the Administration of Radioactive Pharmaceuticals*, the *Regulation on the Safety Management of Hazardous Chemicals and the Nuclear Safety Law of the People's Republic of China*. The Group has formulated a series of internal management policies, such as the *Post Responsibilities System of Safety Duty*, the *Safety Electricity Management Regulations*, the *Fire Safety Management Regulation*, the *Regulations on Safety Management of Construction Projects*, and the *Regulations of Safety Management for Special Equipment*, etc.

The Group believes that high-level product safety and quality control are the cornerstones of long-term development. Therefore, we are committed to integrating safety objectives into every aspect of our production and operation activities. In terms of safety management, the Group regularly conducts various safety inspections and safety technology improvements, and the Safety Production Committee holds a special meeting on safety issues quarterly. By actively formulating safety management systems, each subsidiary also ensures product safety through smooth production and operation activities.

In particular, HTA and CNGT comply with the requirements of the *Pharmaceutical Administration Law of the People's Republic of China (2019 Revision)* in relation to pharmacovigilance and have established the following relevant regulatory requirements (including but not limited to):



CNGT also clearly stipulates in the *Safety Management Protocol* that the safety production committee at the business unit level is the decision-making body for safety production and safety management, which is responsible for making decisions on major safety issues, organising the revision of the company-level safety management system, and standardising the division of responsibilities, radiation safety management, general safety management, transportation safety management, emergency management for accidents, safety education and training, safety performance assessment, occupational health management, etc.



For the safety management of radioactive sources and radioactive substances, the *Regulations on the Safety Management of Radioactive Sources and Radioactive Materials of HTA* requires all units and subsidiaries to establish a safety management responsibility system on top of complying with the safety management regulations in relation to the purchase, production, sales, recycling, storage, transfer, import and export and transportation of radioactive sources and radioactive materials. Regarding procurement, an approval system is implemented in a unified manner for the borrowing, transfer, storage, processing, and other activities of radioactive raw materials. Without the approval of the supervisors, all units affiliated to HTA (non-independent subsidiaries) are strictly prohibited to carry out the above activities. At the same time, to further strengthen the supervision of radioactive sources and radioactive materials, HTA and each production unit are required to encode the radioactive sources produced, and strictly prohibits the sales of radioactive sources without codes, and the sales of devices containing radioactive sources to unqualified companies and individuals, ensuring that all products sold have been approved by the customer's local environmental protection department before delivery.

To further improve the ability of safety emergency preparation and emergency response, the Group has improved the management system and procedures by establishing the *Management Measures of Production Safety Emergency of CIRC*, the *Comprehensive Emergency Plan for Production Safety Incidents of CIRC*, and the *Regulations on the Production Safety Incident Reporting and Investigation of CIRC*, as well as formulating three specific emergency plans, namely the *Emergency Plan for Irradiation Incidents of CIRC*, the *Emergency Plan for Industrial Safety Incidents of CIRC* and the *Emergency Plan for Environmental Emergencies of CIRC*. The Group has also established an emergency response organisation to properly respond to emergency incidents.

FOCUSING ON PRODUCT QUALITY

CIRC adheres to the quality guidelines of "Integrity-based, Law-abiding Operation, Customer First, High Quality and Efficiency". The Group has obtained the ISO9001 quality management system certification and organised quality management (QC) group activities and quality month activities every year to promote the product quality of CIRC. In addition, we have established the *Regulations on Quality Management of CIRC*, the *Administrative Measures on Quality Incident of CIRC*, the *Administrative Measures on Quality Supervision of CIRC*, the *Administrative Measures on Quality Information of CIRC*, the *Administrative Measures on Quality Training of CIRC*, and the *Administrative Measures on Quality Management Group Activities of CIRC*.

The Group's quality management system has covered the relevant systems for product production process control and product recall. We stipulate that the design of products and services, product delivery, and aftersales service control are undertaken by the operation department, and the safety, environmental protection, and quality department are responsible for the release of products. Monitoring and measuring activities are implemented for the inspection of measuring instruments and monitoring and measurement equipment. For example, the *Quality Manual of CIRC* specifies the procedures related to the required product validation, monitoring activities, and acceptance criteria for products. Approval from the head of the operation department and the head of the safety, environmental protection, and quality department must be obtained before the formal completion of the planned arrangement (if applicable, the approval from the customers). Otherwise, the provision of products and delivery services to customers is prohibited.

In terms of unqualified products control and management, the Group has clarified the control and handling process of non-conforming products in the *Quality Manual of CIRC*. The disposal process for non-conforming products includes:

Identifying, isolating, recording, filling out the <i>Unqualified Products</i> <i>Notification</i> , and notifying the person in charge of the Operation Department and the Safety, Environmental Protection and Quality Department if unqualified products are found in the warehouse verification process after being purchased	Organising relevant personnel to review according to the Unqualified Products Notification	Reporting and approving the <i>Review and Disposal</i> <i>Form of Unqualified</i> <i>Product</i>	Disposing the unqualified products in accordance with approved disposal methods
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Disposal of unqualified products includes concessions (only for general unqualified products that do not have a material impact), scrapping, negotiating with the customer or returning and exchanging the product, and notifying the customer to discontinue using or recalling the product. During the Year, the Group did not receive any recall requirements of sold or shipped products for safety and health reasons.

FOCUSING ON SCIENTIFIC RESEARCH AND INNOVATION

During the 14th Five-Year Plan period, CIRC will focus on the strategic goal of "expanding, strengthening and optimising" the nuclear technology application industry, insist on "expanding" as the priority. The Company takes "controlling at source, strengthening the core, expanding the application" as the key motto to improve economic efficiency and development quality, and uses reform and innovation as the driving force to seize the opportunities during the 14th Five-Year Plan period, as well as actively being integrated into the "dual circulation" development strategy. Based on the two major industrial directions of nuclear medical health and irradiation application, we will vigorously promote the accelerated development of seven business units, namely radiopharmaceuticals, medical diagnosis, radioactive sources, irradiation applications, nuclear medical equipment, nuclide manufacturing, and import and export trade. We will build CIRC into an international nuclear technology application product and service provider with strong ability of resources control, reasonable industrial layout, efficient management system, and strong independent innovation capabilities.

The Group has strong research and innovation capabilities. Our research and innovation team focuses on researching and optimising production technologies, developing new products, and upgrading the safety and efficacy of existing products. We have been actively developing various imaging diagnostic and therapeutic drugs. Through detailed market analysis and in combination with our advantages, industry expertise, and market demand, we are committed to selecting research and innovation projects to fill the gaps in various therapeutic areas in the Chinese market and meet the medical needs.

We actively promote autonomous technological innovation and have achieved remarkable results. The Group continued promoting the construction of "1 + N" research and development platform system; accelerating the external research and development platform. The Group promotes the construction of a team of leading talents in technology innovation, and the first batch of postdoctoral personnel completed the review of the inception report and mid-term academic assessment at the postdoctoral research station, as well as introduces high-level talents to each research and development centre; applies for research projects and implemented the key research projects; and conducts academic exchanges, of which the "CIRC Science and Technology Lecture" lectures series was successfully held.



Picture: "Establishment and Clinical Application of Minimally Invasive Treatment System for Tumours" project won the First Prize of Beijing Science and Technology Progress Award



Picture: "Establishment and Clinical Application of a Highly Sensitive and Specific Chemical Light-Emitting Immunisation Technique Technology" won the first prize of Beijing Science and Technology Progress Award

The Group stringently complies with the Patent Law of the People's Republic of China, the Copyright Law of the People's Republic of China, the Regulation on National Defense Patent, the Anti-unfair Competition Law of the People's Republic of China, the Law of the People's Republic of China on Promoting the Transformation of Scientific and Technological Achievements and other relevant laws and regulations. The Group attaches great importance to technological innovation and intellectual property protection, and the number of patents increased significantly throughout the year. During the Year, CIRC applied for a total of 115 patents, and successfully obtained 168 patents.

In accordance with laws and taking into account the actual situation, the Company has formulated the *Administrative Measures on the Intellectual Property of CIRC* to regulate the management and protection of intellectual property rights. To strengthen the construction of the intellectual property management system, the Group has revised the intellectual property management systems such as the *Administrative Measures on Technology Investment Projects of CIRC and the Trade Secret Protection Work Management Measures of CIRC*, requiring technology investment projects to implement full-process intellectual property management. At the same time, to encourage employees to be innovative, we have also established incentive policies such as *Incentive Measures for Technological Innovation of CIRC*.

Prior to the establishment of a project, the project contractor conducts a patent search and patent risk analysis, including intellectual property rights planning in the project's task contract. During the implementation of technology investment projects, the Company carried out intellectual property planning and layout regularly. For projects that may be involved in technology transfer and/or product export in the future, the Group carries out international patent planning in advance, and applies for patent applications as soon as possible if the conditions for patent application are met; those that are not eligible for patent application will be protected through effective measures such as technical know-how; and newly developed products will be actively protected through trademark registration and other methods.





Picture: Patent License Certificate
ADHERING TO CUSTOMER VALUE

The Group is committed to building a "market-driven and customer-oriented" marketing service system, focusing on customer needs, continuously improving the supervision and management system for customer satisfaction, and providing strong market support for the strategic development of CIRC.

PROVIDING QUALITY SERVICES

CIRC's marketing system is managed in a centralised approach, with the Market Operation Department being responsible for the overall management of the CIRC and each subsidiary is responsible for sales management and marketing management relating to sales work. In accordance with the requirements of the *Administrative Measures on the Marketing of CIRC (Trial)*, each subsidiary shall establish a customer management system, including but not limited to customer file management, customer service, handling of customer opinions and complaints, call-back system, and customer satisfaction survey and analysis. At the same time, the Group supervises its subsidiaries to implement a customer satisfaction management policy in accordance with the rectification of customer satisfaction plans of each subsidiary. During the Reporting Period, the Group received zero complaints regarding our products and services. We will continue to enhance the responsibilities of each department in charge and establish a sound working mechanism to continuously meet the requirements of our customers.

In addition, the Group continues maintain smooth communication channels with the customers, such as academic promotions, customer meetings, and customer visits, to introduce information of products and businesses of the Group to customers. The Group also collects customers' needs, responds to their inquiries, and accepts comments and suggestions from customers to continuously enhance its competitiveness in the market. The Group also conducts regular or irregular inspections and spot checks on customer complaints of each department, and incorporates the product and service complaints, handling results, and implementation into the performance evaluation system of relevant personnel of each department.

Collect and record the complaint

Determine whether the complaint is valid Analyse the causes of the complaint by the responsible department Implement solutions, inform customers and collect feedback promptly

Conduct follow-up checks and collect feedback from customers 7 working days after the completion of the customer complaint

Final Evaluation

Figure: Process for responding to a product and/or service complaint

ADHERING TO CUSTOMER VALUE (CONTINUED)

At the same time, the Group has made specific requirements on the management process of drug complaints. Taking the *Complaint Management Regulations in Good Manufacturing Practice (GMP)* of HTA as an example, it states that dedicated personnel and sufficient counsellors are responsible for the investigation and handling of quality complaints.

Taking the process of handling radiopharmaceutical quality complaints in HTA as an example, general complaints are notified by the Radiopharmaceutical Marketing Centre of CIRC to business units of HTA, and results should be reported within 24 hours after receiving complaints; major complaints are immediately notified by the Radiopharmaceutical Marketing Centre to the General Marketing Service Department of HTA, which immediately notifies the Quality Department of HTA. The Quality Department reports the feedback to business units and the General Marketing Service Department, and business units return the feedback to customers promptly. The whole process of complaint handling should not exceed 5 working days, which ensures that measures are taken in a timely manner to control potential risks and improve customer satisfaction.

VALUING CUSTOMERS' RIGHTS

To ensure optimal service quality, the Group strictly abides by the Advertising Law of the People's Republic of China, continuously strengthens and standardises the management of marketing work such as advertising and labelling, fully protects the privacy and trade secrets of customers, and partners, and maintains a clean market environment. According to the Advertising Law of the People's Republic of China, the Group prevents advertising special drugs such as narcotic drugs, psychotropic drugs, toxic drugs for medical use, radioactive drugs, pharmaceutical precursor chemicals, and drugs for the treatment of drug addiction, medical devices and treatment methods. Additionally, to protect the rights and interests of the Group's customers and partners, the Group strictly complies with the Trademark Law of the People's Republic of China, the Law of the People's Republic of China on Guarding State Secrets and other laws and regulations on advertising, labelling, privacy matters and remedies of products and services provided. To improve the relevant management level, we have formulated internal policies such as the CIRC's Confidentiality Management Regulations and Regulations for Privacy Management of CIRC, the Administrative Measures for Business Secret of CIRC (Temporal). The policies specify the scope of trade secrets including important customer and supplier information, as well as other market information and business information related to market procurement and marketing plans, market forecasts, production and sales strategies, business channels, sales methods, production costs, etc.

In terms of privacy protection, we adhere to the information confidentiality work principles of "Business Operators Responsible for Confidentiality" and "Confidentiality is implemented with Business" to carry out the work on important information confidentiality. As the administrative unit in charge of the Group's confidentiality work, the CIRC Confidentiality Office is responsible for organising and carrying out education and training on trade secret protection, confidentiality inspection, confidential technology protection, and investigation and handling of data leakages in accordance with the law. We require that if any leakage of State secrets or commercial secrets due to misconduct or mismanagement is discovered, the responsible person may be prosecuted legally or subject to administrative penalties upon verification.

ADHERING TO CUSTOMER VALUE (CONTINUED)

In addition, employees are required to sign a labour contract that contains trade secret protection clauses to strictly control the scope of knowledge of trade secret matters. To enhance employees' awareness of protecting privacy and important information, we actively organise various forms of promotion, education, and training activities for the protection of trade secrets, such as marketing training, to improve the confidentiality awareness and prevention skills of personnel who are aware of the matters concerning the protection of trade secrets and trade secrets.

During the Reporting Period, the Group did not experience any material non-compliance situations regarding the laws and regulations related to health and safety, advertising, labelling, intellectual property rights, and privacy matters of its products.

Case: Customer satisfaction survey

Based on the customer satisfaction survey results of 13 subsidiaries in 2020, we analysed and formed a customer satisfaction survey report, and formulated the 2021 customer satisfaction rectification and improvement plan. The rectification and improvement plan covers:

23	17
Measures to improve service quality	Improving product quality measures
7	6
Measures to improve transportation timeliness	Training/visits/research and innovation
	measures

From September to October 2021, CIRC conducted a new round of satisfaction survey. This survey, for the first time, integrated specific quality issues from the Safety, Quality, and Environmental Protection Department and received feedback results that are more relevant. The Safety, Quality, and Environmental Protection Department also supervised and guided the rectification of quality issues of key units.

According to statistics, a total of 12 subsidiaries participated in the survey, involving 4,458 customers under CIRC. The survey covers brand, product (service) quality, new product demand, product safety, transportation services, after-sales, sales personnel, and distributor services. The results and analysis of the survey indicated that the overall satisfaction of customers of each unit is basically above 95%. To address deficiencies in product transportation, timely supply, customer visits, and after-sales services, each unit has formulated targeted rectification measures to continuously improve customer satisfaction.

BUILDING AN OUTSTANDING TEAM

The Group considers its employees as the most valuable and important asset and strictly complies with the laws and regulations related to compensation and dismissal, recruitment and promotion, working hours, holidays, equal opportunities, diversity, anti-discrimination, and other treatment and benefits that have a significant impact on the Group, such as the *Labour Law of the People's Republic of China*, the *Labour Contract Law of the People's Republic of China on the Protection of Minors* and the *Social Insurance Law of the People's Republic of China*. The Group advocates equal opportunities, diversity, and non-discrimination, while continuously optimising the talent management system, the Group has formulated detailed internal policies and established employee communication channels to safeguard the legitimate rights and interests of employees.

During the Year, the Group did not receive any violations of laws and regulations related to recruitment, dismissal, remuneration, promotion, working hours, holidays, equal opportunities, diversity, anti-discrimination, nor did receive any violations or complaints related to illegal employment of child labour and forced labour that have a significant impact on the Group.

As of the end of the Year, the total number of employees of the Group was 3,120 (2020: 2,912). For details, please refer to the table below.

Number of employees	2021	2020
By Gender		
Male	2,047	1,870
Female	1,073	1,042
By Age		
20 – 30 years old	941	1,108
31 - 40 years old	1,281	1,009
41 - 50 years old	615	567
51 - 60 years old	283	228
By Employment Type		
Management	7	7
Middle-level Employee	90	83
General Employee	3,023	2,822



Number of employees	2021	2020
By Geographical Region		
Beijing	1,360	1,218
Guangdong	379	429
Sichuan	256	265
Jiangsu	175	139
Shanghai	109	94
Hubei	109	20
Tianjin	78	223
Anhui	61	164
Zhejiang	29	40
Jilin	25	25
Hainan	22	18
Others ⁹	517	277

As of the end of the Year, the overall employee turnover rate was 9.50%. For details, please refer to the table below.

Employee Turnover	Employee Turnover (People)	Employee turnover rate
By gender		
Male	177	8.69%
Female	118	11.04%
By age		
20 – 30 years old	117	12.43%
31 – 40 years old	125	9.87%
41 - 50 years old	29	4.72%
51 - 60 years old	24	8.28%

Employee Turnover	Employee Turnover (People)	Employee turnover rate
By Geographical Region		
Beijing	115	8.46 %
Guangdong	80	21.11%
Sichuan	23	8.98 %
Jiangsu	15	8.57%
Shanghai	8	7.34%
Hubei	21	19.27%
Tianjin	6	7.69%
Anhui	26	42.62%
Hainan	1	4.55%

The data for 2020 has been recalculated to increase its comparability. The number of employees by geographical region includes Shandong, Shanxi, Chongqing, Hebei, Hunan, Henan, Guizhou, Shaanxi, Guangxi, and Jiangxi.

IMPROVING EMPLOYEE WELLBEING

To standardise the recruitment and hiring process, we have established the *Administrative Measures for the Recruitment of Staff* in the headquarters of CIRC. We uphold the principles of "Openness, Equality, Competitiveness, and Merit Selection", "Combining Virtue and Talent, Hiring Based on Competence", and "Matching Personnel with Positions", and oppose any forms of discrimination, we never discriminate against any candidate by gender, age, race, physical barriers, etc. during the processes of recruitment and promotion, striving to guarantee a fair competitive environment. In addition, we recruit talents through social recruitment and campus recruitment. Each unit formulates the annual recruitment plan according to its needs and sets its specific requirements on recruitment management, and recruitment plans of the subsidiaries are then approved by the human resources department.

The Group adheres to legal employment and legal management and resolutely prohibits the employment of child labour or any forms of forced labour. We stipulate in our recruitment system that candidates should be at least 18 years old in our recruitment policies, and a labour contract is signed with the new employee to establish a labour relationship. If any non-compliance with the employment conditions is found during the probation period, the Group will immediately terminate the employment relationship with the relevant parties.

The Group strictly prohibits unfair or unreasonable dismissal to protect the rights and interests of employees. We have formulated the *Regulations on the Management of Work Attendance in the Headquarters of CIRC* to regulate the relevant provisions and procedures for the termination of labour contracts of employees in strict accordance with the requirements of laws and regulations and clarify the obligations and standards for the payment of economic compensation and economic compensation. Except for the specified circumstances (for example, if new employees who violate national laws and regulations during the probation period and receive punishment, the labour contract will be terminated), the dismissal of employees should also not be unreasonably made.

In terms of remuneration, the human resources department prepares the total remuneration budget for the next year in accordance with the Company's comprehensive budget management and the Group's total salary budget. The Company's salary distribution is based on the Company's benefits, employees' position, performance, and ability, regarding factors such as the average salary level of the operating location, minimum wage standard, local living price level, and labour supply and demand situation, etc., in the form of a post-based performance salary system supplemented by a negotiated salary system. In addition, the Group continued making efforts to establish a sound remuneration system and implementing the *Administration Measures on the Total Wages of CIRC* and the *Administration Measures on the of Employee Welfare Fees of CIRC* to comprehensively consider factors such as the overall salary level in the industry and employee performance. Based on the requirements of national and local policies on labour, insurance, and welfare such as the *Social Insurance Law of the People's Republic of China*, we further provide employees with benefits such as employee retirement benefit plans, medical and work-related injury insurance plans, and housing provident fund plans. We are committed to protecting the reasonable welfare of our employees and providing them with various welfare subsidies, including but not limited to:

Employee medical check fee

Incentive for family planning

Subsidy for medical expenses for children

• Employee subsidy for hardships

Survivor's benefit

Funeral subsidy

We have also formulated the *Regulations on the Management of Work Attendance in the Headquarters of CIRC*, which implements a 40-hour work system per week and 2-day public holidays per week and implements statutory holidays in accordance with national regulations. We also implement a shift system for production positions of each subsidiary to ensure reasonable working hours for employees. We also provide employees with sick leave, work-related injury leave, maternity leave, marriage, and funeral leave, and paid annual leave.

OCCUPATIONAL HEALTH AND SAFETY

As the Group's business involves radiation technology, the occupational safety and health of employees is our top priority. Strictly complied with the *Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases*, the *Production Safety Law of the People's Republic of China*, the *Regulation on the Safety and Protection of Radioisotopes* and *Radiation Devices, and the Basic Standards for Protection Against lonizing Radiation* and for the *Safety of Radiation Sources*, the Group has formulated policies including the *Administrative Measures for Occupational Health Supervision of CIRC* and *the Administration Regulations on the Safety Production Responsibility and Accountability of CIRC*, which set out measures for occupational health and safety, and strengthen the prevention, control and elimination of occupational hazards in scientific research and production processes, thereby protect the health and related rights of employees.

The Group is committed to creating a healthy and safe working environment for its employees. Headway has set up an Environmental, Health, and Safety (EHS) Committee to formulate a series of improvement plans and preventive measures for the physical and potential risks of various departments and production processes to reduce the safety and health risks to employees. For employees working in the radioactive section, the Group regularly carries out occupational health examinations for those employees in accordance with the requirements of laws and regulations and provides employees with personal medical imaging films for regular inspection. During the Year, there were no abnormal scanning results of the Group's employees. In terms of occupational health management, we require all business units where occupational hazards exist to carry out workplace monitoring and personal monitoring. The scanning results for monitoring should be properly stored and reported to the Safety, Environmental Protection, and Quality Department of CIRC. To enhance employees' awareness of occupational health and safety, the Group held various trainings during the Year to improve employees' awareness and ability of self-protection. Through learning relevant knowledge and emergency measures, the Group enhanced the awareness and skills of all employees on health and safety protection, thereby effectively avoiding potential accidents.

In addition, the Group also attaches great importance to the mental health of employees. We actively hold sports games, festival activities, team building, and other employee activities to help relieve employees' work pressure, thereby enhancing the team spirit of employees and creating a harmonious group atmosphere.

During the past three years (including the Reporting Year), the Group did not experience any material safety accidents, work-related deaths or injuries. During the Reporting Period, the number of working days lost by the Group due to work injury was 274 days¹⁰. The Group also did not have any non-compliance situations in providing a safe working environment and protecting employees from occupational hazards.

EMPLOYEE TRAINING AND DEVELOPMENT

The Group is committed to creating a fair, harmonious, and promising working environment for its employees. To promote and optimise the management policies and develop training plans for employees, we have formulated the *Administrative Measures for Education and Training of CIRC*. Under the leadership of the Party Committee of CIRC, the education and training of cadres and employees of CIRC are primarily managed by the human resources department of CIRC, and the personnel of each department and headquarters are responsible for specific duties, which they also jointly promote the construction of the education and training system of CIRC. We actively provide all employees with high-quality training resources and have subsequently organised a series of training activities such as professional ability enhancement training for department personnel, safety and quality training to enhance employees' knowledge and skills in performing their duties.

To help our employees to work and learn effectively during the COVID-19 pandemic, the Group continued using CIRC's online learning platform to further expand training methods and channels. Through the online learning platform, the Group initiated the construction of a course library and initially established a training course for new employees and a lean management curriculum system to strengthen the accumulation and management of corporate knowledge. At the same time, the Group carried out general courses and a knowledge-sharing forum for "communication skills", as well as sharing selected books and outstanding lectures to employees.

	-	Percentage of employees Average training hours of trained ¹¹ employees		
	2021	2020	2021	2020
By Gender				
Male	65.61 %	64.22%	110	108
Female	34.39%	35.78%	110	113
By Employee Category				
Management	0.22%	0.24%	114	95
Middle-level Employee	2.88%	2.85%	105	105
General Employee	96.90%	96.91%	110	110

During the Year, the number of employees trained by the Group was 3,120 (2020: 2,912). Please refer to the table below for specific training figures.

The working days lost due to work-related injuries are only recorded if the work injury identification procedure is approved by the local social insurance administrative department.

The employee training percentage is calculated as: Employees trained in that category / Total number of employees trained* 100%. To ensure meaningful comparisons, the Group adjusted the employee training percentages for 2020, and the employee training percentages for 2020 shall prevail in this Report.

Case: Exceptional Training Activities

On 14th December 2021, CIRC held the "Knowledge Sharing" Internal Trainer Training Programme (Phase 1) internal training course to review and assess the first batch of internal trainers' appointment of CIRC. Mr. Li Chao, the Deputy General Manager of CIRC, and Mr. Ma Dengfeng, the Secretary of the Discipline Inspection Committee, attended the meeting and served as the judges of the Evaluation Committee. In addition, three external experts, including Wang Ye, Deputy Director of the Operation and Management Department of CNNC, Guo Chunlin, Secretary to the Board of Directors and Manager of the Human Resources Department of China Baoyuan, and Li Wei, Deputy Director of the Nuclear Industry Management College, were also invited to serve as judges at the meeting.

All trainees of the "Knowledge Sharing" Internal Trainer Training Programme (Phase 1) attended the meeting on-site and through online video. The course adopted a combination of course presentations, trial lectures, and question and answering sessions. At the meeting, six teams presented their curriculum design concepts and logic frameworks in the sequence of drawing lots and selected the key contents of the courses for trial teaching. After the meeting, the group members responded to the questions raised by the panel. In accordance with the requirements of the course evaluation, each team conducted on-site demonstrations and trial lectures on the trainees in Beijing units.

Six courses, namely Lean Improvement and Problem Solving, Guide for New Work – How to quickly adapt to new positions, First Class of Integrity Education for New Employees, CIRC KPI + OKR coupling Performance Management System Construction, Improving Quality Awareness of All Employees and Supporting the Implementation of CIRC Strategy and Efficient and Collaborative Marketing Organization Construction developed by participants of the CIRC Internal Trainer Training Programme (Phase I), passed the course review. Among them, two courses, namely Lean Improvement and Problem Solving and First Class of Integrity Education for New Employees were awarded the Excellent Course Award; Three trainees, namely Zhang Jianxiong and Peng Qihui from the headquarters of CIRC, and Yang Anmin from HTA won the "Best Style" award.

According to the implementation plan of CIRC's "Knowledge Sharing" Internal Trainer Training Programme (Phase 1), 32 trainees who completed the first training camp, the micro-lesson and course review of "Tracing the history of the Party" obtained the completion certificate of the Internal Trainer Training Programme (Phase 1). Among them, 10 trainees who met the recruitment conditions of internal trainers were appointed as the first batch of internal trainers of CIRC.







PROMOTING SOCIAL DEVELOPMENT

PASSION FOR SOCIAL WELFARE

The Group understands the importance of contributing back to the society. As a responsible corporate citizen, the Group always spares no efforts to understand and meet the needs of the community while achieving its stable development. The Group complies with laws and regulations such as the *Law of the People's Republic of China on Donations for Public Welfare* and the *Administrative Measures for External Donations of CNNC*. According to the Administrative Measures, all direct units and their affiliated units are required to undergo internal decision-making process to review and confirm the donation works. All units must trustfully fulfil their donation commitments and strictly prohibit all kinds of false publicity or promises. The Group carries out charitable donations in accordance with the provisions of the *Administrative Measures for External Donations of CNNC*. The types of external donations are classified as follows.

Relief donations

Refers to donations which shall be used in production, livelihood relief and succour for people suffering from natural disasters, or living in old revolutionary base areas, ethnic minority areas, border areas. and underdeveloped areas that are identified by the state or designated aid areas, as well as other vulnerable groups and individuals

Public welfare donations

 Refers to donations which shall be used in social welfare undertakings such as education, technology, culture, hygiene, sports, environmental protection, energy conservation and emission reduction

 Refers to donations for other public and welfare undertakings aiming at promoting humanism or social development apart from the above mentioned categories, as well as fulfilling CNNC's social responsibilities

During the Year, the Group actively carried out different types of public welfare activities, including flood disaster relief in Zhengzhou, Henan Province, free medical consultation activities, donations to vulnerable groups and poverty alleviation through consumption, etc., and continued promoting the improvement of people's lives and community development with practical activities.



PROMOTING SOCIAL DEVELOPMENT (CONTINUED)



Photo: Anhui Young-Hearty donated materials to poor children and single-parent families

As a leading enterprise in the nuclear medicine industry, we and the Nuclear Medicine Branch of the Chinese Medical Association have been committed to promoting the level of nuclear medicine diagnosis and treatment at the grassroots level, promoting the construction of nuclear medicine at the grassroots level, and improving the value and position of nuclear medicine in clinical diagnosis and treatment. We launched the base construction project of 3 hospitals and assisted in the acceptance of 5 assisted hospitals, which brought a profound impact on the provision of nuclear medicine and reflected the social responsibility of radioisotope production and sales enterprises.

In addition, we are committed to researching technologies for the treatment of tumours to benefit the society. In September 2021, the project "Establishment and Clinical Application of Minimally Invasive Treatment Tumour System for Radioactive Particles" jointly applied by HTA, Peking University Third Hospital, Peking University Stomatology Hospital, Beihang University, and other units won the first prize of Science and Technology Progress Award of Beijing Science and Technology Award.



Picture: Research and development of tumour treatment technology won the Beijing Science and Technology Progress Award

PROMOTING SOCIAL DEVELOPMENT (CONTINUED)

SUPPORTING PANDEMIC PREVENTION AND CONTROL

Since the outbreak of the COVID-19 pandemic, all of our employees have demonstrated the brand characteristics of "Professionalism, Innovation, Efficiency and Openness" and the industry responsibility of "Technology Application Industry Driver" with practical activities. We responded to the national call promptly, fully supported nucleic acid testing, researched and developed irradiation and sterilisation technology for medical protective clothing, and provided free irradiation. We overcame numerous difficulties to ensure the supply of drugs, and actively organised a series of pandemic materials donation activities. CIRC has always been working together with frontline medical workers and medical institutions, and actively fulfilled its social responsibilities by leveraging the technical and professional advantages of nuclear medicine.

Case: CIRC carried out free medical consultation activities in Wansidi Village, Xunyang City

To promote the effective connection between poverty alleviation and rural revitalisation, and further improve the health and wellbeing of the public. On November 17, 2021, CIRC, together with the People's Hospital of Xunyang City, formed a volunteer medical consultation team to visit Wansi Village, Xunyang City to carry out a free medical consultation activity of "I do things for the public".

At the event site, under the guidance of village cadres and village team members, villagers were guided to the volunteer clinic service area outside the village party service centre and took strict pandemic prevention measures such as temperature checks, information registration, and wearing protective masks. During the free medical consultation process, the specialists answered the questions of each villager attentively, understood and solved the patients' situation through inquiries, physical checks, inspection reports, etc., and put forward targeted diagnosis and treatment and medication suggestions. The specialists guided the patients to use drugs appropriately while aligning with the instructions, made scientific medical treatment, shared knowledge related to pandemic prevention and control for the public, and distributed brochures that contains health-related knowledge. The doctors were praised by villagers for their excellent medical skills and convenient services delivered to the "doorstep".

During the event, CIRC donated 300 copies of the urea 14C breath test kits (cards) produced by Headway for the H.pylori bacteria and popularised health knowledge such as the causes and hazards of H.pylori bacteria to the public, so that the community engaged in the event understood and recognised the hazards of H.pylori bacteria, and enhanced their awareness of stomach health.



Mandatory Disclosure	Description	Relevant Sections in this
Requirements	Description	Report/Explanation
Governance		
Governance Structure	A statement from the board containing the following elements:	ESG Governance
	(i) a disclosure of the board's oversight of ESG issues;	
	 (ii) the board's ESG management approach and strategy, including the process used to evaluate, prioritise and manage material ESG-related issues (including risks to the issuer's businesses); and 	
	(iii) how the board reviews progress made against ESG-related goals and targets with an explanation of how they relate to the issuer's businesses.	
Reporting principles	A description of, or an explanation on, the application of the Reporting Principles in the preparation of the ESG report.	About this Report
Reporting Boundary	A narrative explaining the reporting boundaries of the ESG report and describing the process used to identify which entities or operations are included in the ESG report. If there is a change in the scope, the issuer should explain the difference and reason for the change.	About this Report



General disclosures and		
key performance		Relevant Sections in
indicators	Description	this Report
Environmental		
A1 : Emissions		
General Disclosure	Information on:	Reducing Environmental
		Footprints
	(a) 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.	
A1.1	The types of emissions and respective emissions	
	data.	
A1.2	Direct (Scope 1) and energy indirect (Scope 2)	
	greenhouse gas emissions (in tonnes) and, where	
	appropriate, intensity (e.g. per unit of production	
	volume, per facility).	Overview of Environmental
A1.3	Total hazardous waste produced (in tonnes)	Performance
	and, where appropriate, intensity (e.g. per unit of	
	production volume, per facility).	
A1.4	Total non-hazardous waste produced (in tonnes)	
	and, where appropriate, intensity (e.g. per unit of	
	production volume, per facility).	
A1.5	Description of emissions target(s) set and steps taken	
	to achieve them.	Emissions and Waste
A1.6	Description of how hazardous and non-hazardous	Management
	wastes are handled, and a description of reduction	managomont
	target(s) set and steps taken to achieve them.	



General disclosures and		
key performance		Relevant Sections in
indicators	Description	this Report
A2 : Use of Resources		
General Disclosure	Policies on the efficient use of resources, including	Reducing Environmental
	energy, water and other raw materials.	Footprints
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	Overview of Environmenta
	facility).	Performance
A2.2	Water consumption in total and intensity (e.g. per unit	
	of production volume, per facility).	
A2.3	Description of energy use efficiency target(s) set and	
	steps taken to achieve them.	Efficient Use of Energy
A2.4	Description of whether there is any issue in sourcing	and Water Resources
	water that is fit for purpose, water efficiency target(s)	
	set and steps taken to achieve them.	
A2.5	Total packaging material used for finished products	Overview of Environmenta
	(in tonnes) and, if applicable, with reference to per	Performance
	unit produced.	
A3 : The Environment and		
Natural Resources		
General Disclosure	Policies on minimising the issuer's significant impact	Protection of Environment
	on the environment and natural resources.	and Natural Resources
A3.1	Description of the significant impacts of activities	
	on the environment and natural resources and the	
	actions taken to manage them.	
	C C	
A4 : Climate Change		
General Disclosure	General Disclosure Policies on identification and	Responding to Climate
	mitigation of significant climate-related issues which	Change
	have impacted, and those which may impact, the	
	issuer.	
A4.1	Description of the significant climate-related issues	
	which have impacted, and those which may impact,	

General disclosures and		
key performance		Relevant Sections in
indicators	Description	this Report
Social		
B1 : Employment		
General Disclosure	Information on:	Building an Outstanding Team
	(a) 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.	
B1.1	Total workforce by gender, employment type, age	
B1.2	group and geographical region. Employee turnover rate by gender, age group and	
D1.2	geographical region.	
B2 : Health and Safety		
General Disclosure	Information on:	Occupational Health and Safety
	(a) 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.	
B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	I
B2.2	Lost days due to work injury.	
B2.3	Description of occupational health and safety	
	measures adopted, how they are implemented and monitored.	



General disclosures and		
key performance		Relevant Sections in
indicators	Description	this Report
B3 : Development and		
Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of	Employee Training and Development
	training activities.	
B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle	
	management).	
B3.2	The average training hours completed per employee by gender and employee category.	
B4 : Labour Standards		
General Disclosure	Information on:	Improving Employee Wellbeing
	(a) Policies; and	
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	
	relating to preventing child and forced labour.	
B4.1	Description of measures to review employment practices to avoid child and forced labour.	
B4.2	Description of steps taken to eliminate such practices	
,	when discovered.	
B5 [∶] Supply Chain		
Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Responsible Supply Chain
B5.1	Number of suppliers by geographical region.	
B5.2	Description of practices relating to engaging	
	suppliers, number of suppliers where the practices	
	are being implemented, how they are implemented	
	and monitored.	
35.3	Description of practices used to identify	
	environmental and social risks along the supply	
	chain, and how they are implemented and monitored.	
B5.4	Description of practices used to promote	
	environmentally preferable products and services	
	when selecting suppliers, and how they are	
	implemented and monitored.	

General disclosures and key performance Relevant Section		
indicators	Description	this Report
B6 : Product Responsi General Disclosure	Information on:	Product Responsibility
		Management
	(a) Policies; and	Management
	(b) compliance with relevant laws and regulations	
	that have a significant impact on the issuer	
	relating to health and safety, advertising, labelling	
	and privacy matters relating to products and services	
	provided and methods of redress.	Dreduct Decempibility
B6.1	Percentage of total products sold or shipped subject	Product Responsibility
B6.2	to recalls for safety and health reasons. Number of products and service related complaints	Management Valuing Customers' Right
00.2	received and how they are dealt with.	Valuing Oustoniers high
B6.3	Description of practices relating to observing and	Focusing on Scientific
	protecting intellectual property rights.	Research and Innovation
B6.4	Description of quality assurance process and recall	Focusing on Product
	procedures.	Safety, Focusing on
		Product Quality
B6.5	Description of consumer data protection and privacy	Valuing Customers' Right
	policies, how they are implemented and monitored.	
B7 : Anti-Corruption General Disclosure	Information on:	Focusing on Integrity
		Management
	(a) Policies; and	Management
	(b) compliance with relevant laws and regulations	
	that have a significant impact on the issuer	
	relating to bribery, extortion, fraud and money	
	laundering.	
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.	
B7.2	Description of preventive measures and whistle-	
	blowing procedures, how they are implemented and	
	monitored.	
B7.3	Description of anti-corruption training provided to	
	directors and staff	

General disclosures ar key performance indicators	Description	Relevant Sections in this Report
B8 : Community Invest	tment	
General Disclosure	Policies on community engagement to understand	Promoting Social
	the needs of the communities where the issuer operates and to ensure its activities take into	Development
	consideration the communities' interests.	
B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	
B8.2	Resources contributed (e.g. money or time) to the focus area.	



中國同輻股份有限公司

China Isotope & Radiation Corporation