



北京2022年冬奥会官方合作伙伴
Official Partner of the Olympic Winter Games Beijing 2022



2021

Environmental, Social and Governance Report

SINOPEC ENGINEERING (GROUP) CO., LTD.

Stock Code: 02386.HK

About This Report

This Report is the ninth environmental, social and governance ("ESG") report ("the Report") of SINOPEC Engineering (Group) Co., Ltd. ("the Company" and "SEG") since going public. This report introduces our sustainability philosophy and policies and our environmental protection, social responsibility and corporate governance (hereinafter referred to as "ESG") performances in 2021, and highlights on how we responded to the expectations and concerns of stakeholders.

Reporting Subject: SINOPEC Engineering (Group) Co., Ltd.together with its subsidiaries and branches (the "Group", "we" or "us").

Reporting Period: From 1 January 2021 to 31 December 2021 ("Reporting Period"), with some information and figures tracing back to earlier years beyond the stated Reporting Period in order to enhance the comparability and continuity of this Report.

Publication Cycle: This Report is published as the annual ESG report for the year of 2021.

Content Scope: This Report covers the important matters and performance of the Group in the environmental, social and governance aspects during the Reporting Period.

Sources of Information: The informarion of this Report herein comes from internal data, materials from our subsidiaries, and relevant public information. Some of the operational and financial data of this Report are cited from the Group's 2021 Annual Report. In the event of any discrepancy in data between this Report and the 2021 Annual Report, the information in the 2021 Annual Report shall prevail. Unless otherwise specified, the amount disclosed in this Report is denominated in RMB.

Compilation Guidelines: This Report is compiled based on the Environmental, Social and Governance Reporting Guide of the Stock Exchange of Hong Kong Limited (the "HKEx"). It also refers to the Guidelines to the State-owned Enterprises on Fulfilling Corporate Social Responsibilities issued by State-owned Assets Supervision and Administration Commission of the State Council of PRC, the GRI Sustainability Reporting Standards issued by Global Reporting Initiative (GRI), and the Guidelines on Corporate Social Responsibility Reporting in China (CASS-CSR 4.0) of Chinese Academy of Social Sciences. With respect to the section of addressing climate change, please refer to the advice of the Task Force on Climate-related Financial Disclosure.

Access to the Report: This Report is released in both printed and online versions. The online version is available for downloading at the website of HKEx at www.hkexnews.hk and the website of SINOPEC Engineering (Group) Co., Ltd. at www.segroup.cn.

Disclaimer: This Report includes certain forward-looking statements. Other than the historical facts, all events which may or will happen in the future and their description (including but not limited to, preconditions, goals, estimates and commercial plans) are included in the forward-looking statements. Due to the influence of external changing factors, the factual development result or trend in the future may be different from such statements. The forward-looking statements of this Report were made in April 2022. Unless otherwise required by the regulatory authorities, SINOPEC Engineering (Group) Co., Ltd. undertakes no obligation or responsibility to update these forward-looking statements.

This Report is prepared in both Chinese and English. In case of any discrepancy between the two versions, the Chinese version shall prevail.

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Letter from Chairwoman

First of all, on behalf of the Board of Directors of Sinopec Engineering (Group) Co., Ltd., I would like to express my heartfelt appreciation to all shareholders and stakeholders for your interest and support for the Group!



Revenue

RMB **57.760** billion

YoY increased by

10.3%

Dividend per share

RMB **0.313**

Annual dividend payout ratio

65%

The past year was a year when China's "Two Centenary Goals" converged historically, and it was also a year when many of our business indicators reached record highs and pushed high-quality development to a new level. We responded calmly to the challenges brought by the changes in the energy and chemical industry, actively implemented the development strategy of "Value-Oriented, Innovation-Driven, Green and Clean, Talent-Based, Globalization-Targeted, Integration and Symbiosis", focused on "engineering innovation and value creation", and made a solid step towards the goals of higher quality, more benefits and more sustainable development. In 2021, a number of business indicators of the Group hit record highs, with revenue of RMB 57.760 billion, a year-on-year increase of 10.3%, and a net profit of RMB 2.130 billion; the newly signed contract value for the year was RMB 63.150 billion, and the Board of Directors recommended to distribute the final dividend of RMB 0.222 per share. Plus the already distributed interim dividend of RMB 0.091 per share, the annual dividend payout ratio reached 65%, with a total dividend reaching RMB 0.313 per share, thus getting off to a good start for the 14th Five-Year Plan period.

This year witnessed us forging ahead with determination and igniting the engine of scientific and technological innovation

We always take it as our mission to ensure the national energy security, accelerate the transformation and development of petrochemical industry, and serve people's pursuit of a happy life. We take the initiative to act as the strategic scientific and technological force for national development, focus on "bottlenecking" and forward-looking technologies, and make all-out efforts to press ahead with technological research. During the reporting period, progress was smoothly made in the 38 national-level projects, 22 key scientific and technological projects and 20 major special projects of Sinopec Group undertaken by the Group. PAO (Poly Alpha Olefin) was successfully put into production with production technology and industrial application in place, filling the technical gap of low-viscosity synthetic high-quality lubricating oil in China. The technology of producing ethylene through direct cracking of crude oil, known as "making bread with wheat", has been successfully tested by Tianjin Petrochemical Co., Ltd., opening up a new path for "reducing oil and increasing chemicals" and efficient utilization of crude oil. In 2021, innovation achievements won 92 (times) of the scientific and technological progress awards at the provincial and ministerial levels or above, 681 new patent applications were completed, and 422 new patents were authorized. Innovation played its leading and supporting role more significantly.

This year witnessed us focusing on green and low-carbon development

Committed to cultivating excellent genes for the high-quality development of the petrochemical industry, we actively carried out research on the green and low-carbon

development of the petrochemical industry, explored ways of creating a multi-energy coupling development path and a new multi-industry coordinated development model, provided high-end think tank support for the green, clean and efficient development of the industry, and gave all-out support to refining and chemical enterprises in upgrading and green transformation and development. During the reporting period, the newly-signed contract value of engineering and consulting business was RMB 5.920 billion, a year-on-year increase of 46.3%; 375 new consulting contracts were signed, more than half of which entered the stage of project implementation; nearly 30 projects were delivered digitally with breakthroughs made in the application of engineering digital twinning in smart factories. Focusing on the goal of "carbon peaking and carbon neutrality", we actively expanded our business in the fields of new energy, new materials, energy conservation and environmental protection. During the reporting period, the largest green hydrogen project in the world - Xinjiang Kuqa Photovoltaic Hydrogen Production Project, which we took part in, entered the project implementation stage, and the three hydrogen refuelling stations of the Beijing Winter Olympics that we undertook were successfully put into use. The carbon fiber co-developed by the Group was used in the torch manufacturing for the Beijing Winter Olympics. In addition, a carbon neutrality green joint research and development center was jointly established with the Institute of Process Engineering of the Chinese Academy of Sciences and Yanshan Petrochemical Co., Ltd. so as to make our contributions to the Beijing Winter Olympics and the construction of "beautiful China".

This year witnessed us acting in a down-to-earth manner and laying a solid foundation for high-quality development

We pressed ahead by promoting the establishment and operation of QHSE management system and laid a solid foundation for the high-quality development of the Company. During the reporting period, we achieved two national quality engineering gold awards and two silver awards, and 21 quality awards at the provincial and ministerial levels and above. Zero accident was reported in safety, quality and environmental protection throughout the year and 295 million safety work hours realized continuously. At the same time, eight member enterprises won the title of "Green Enterprises". The Group successfully obtained the QHSE management system certification in line with ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 standards, and thus became the first listed company in China's petrochemical engineering industry to obtain such certification, demonstrating the Company's spirit of continuously consolidating its management foundation, promoting high-quality development and constantly pursuing excellence.

This year witnessed us giving priority to talent development

We always regard talents as the most precious resource, striving to promote the shared growth of our employees and the enterprise. We treat employees of different genders, ethnic groups and nationalities equally, respect their basic rights and interests, care about their occupational, physical and mental health, create a comfortable working environment and a harmonious, friendly and united working atmosphere; strengthen the build-up of our talent teams, open up the growth channels for various talents, establish a multi-level and all-round training system, optimize our talent incentive mechanism and fully release the vitality of talents. During the reporting period, the Group has 1 academicians of the Chinese Academy of Sciences, and 3 academicians of the Chinese Academy of Engineering, 1 national expert with outstanding contributions, 49 people who enjoy special government subsidies, 1 national candidate of "Millions of

Talents Project", 5,648 people who have obtained senior professional and technical qualifications, 10 who became senior experts of Sinopec Group and 3 technical masters of Sinopec Group, and 8 who became winners of Min Enze Young Talents Award, fully demonstrating the Company's strengths in talent pooling.

This year witnessed us working together towards a happy and beautiful home

We earnestly fulfilled our social responsibilities and worked together to build a happy and beautiful home. Thanks to our ceaseless efforts in the prevention and control of the COVID-19 pandemic, we won the battles against the virus. While achieving good results in pandemic prevention and control, we organized volunteer teams to participate in local pandemic prevention and control efforts, fully demonstrating the sense of responsibility of a central state-owned enterprise. We actively carried out consumption and education assistance, contributing to the economic development and educational revitalization of rural areas. We carried out external donation and voluntary services in an organized manner, covering education, medical care, post-disaster reconstruction, pandemic prevention and control, care of vulnerable groups, etc. We actively promoted the economic and social development of areas where we operate our projects and pitched in with community construction to repay the society and be a global corporate citizen.

Dear shareholders and friends from all walks of life, the Board of Directors of the Company has always been attaching great importance to ESG work, thus has established the ESG Committee which is responsible for studying and supervising the commitment and performance of key ESG issues of the Company. In 2022, we will continue to improve our ESG governance framework and related policies to boost the Company's ESG performance. We will continue to strengthen scientific and technological innovation, build green and efficient productivity with advanced technology, and realize green and clean high-quality development. We will serve every client with the best technology and the most advanced equipment so that each of our works is endowed with the high-quality genes of green, efficient and low-carbon development. In the process of planning and design, we will continuously improve our own capabilities, including our engineering service capabilities, and realize the cleanness of production process through better process control. We will earnestly pay attention to the interests of all parties concerned, better integrate people's longings for a better life into our work, and plant ESG concept in all aspects of the Company. While building factories, we will fully take into consideration the integration and symbiosis of social, ecological and economic interests, so that every project that we design and build will make longer-term contributions to the development of the society and industry. In addition, we will continue to make donations and carry out voluntary services in full support of regional economic development and rural revitalization.

We value your constructive opinions and suggestions for the high-quality development of the Company and look forward to working with you to create a better future for the Company. We also hope that the Company will be able to make greater contributions to ensuring the national energy security, facilitating the transformation and development of petrochemical industry, serving people's pursuit of a happy life!

Mdm. Sun Lili
Chairwoman of the Board

Board of Directors' Statement on ESG Governance



The Board of Directors of Sinopec Engineering (Group) Co., Ltd. promises that the Company will strive to follow the requirements of the Environmental, Social and Governance Reporting Guide of Hong Kong Stock Exchange, and continuously optimise its environmental, social and corporate governance (ESG) mechanism, strengthen the Board's role in supervising and participation on ESG related issues, and vigorously integrate ESG considerations into the Company's major decision-making processes and various business practices.

Board of Directors' role in ESG governance

The Board of Directors bears the ultimate responsibility for the Company's ESG governance. The ESG Committee under the Board of Directors is responsible for studying and overseeing the Company's commitment and performance on key ESG issues, coordinating with other committees and functional departments to incorporate ESG factors into internal control, risk management, strategic planning, remuneration and incentives, etc., and reporting ESG performances and major plans to the Board of Directors. The ESG Committee is composed of five directors, with Chairwoman of the board serves as the chairperson of the committee. The ESG Committee convenes at least once each year, and can hold ad-hoc meetings when necessary. The Committee shall inform the Board on ESG-related issues in a timely manner.

ESG management guidelines and strategies

The Company attaches great importance to the significant impact that ESG risks may have on the Company. Every year, the Company updates its ESG issue database based on ESG risk analysis, macro policies and trends, and feedback from stakeholders. Then the ESG issues are prioritised based on stakeholder survey and expert evaluation results, providing guidance to prioritise the focus of the Company's ESG governance efforts.

Review of the progress of ESG goals

As of the date of publication of this report, the Board of Directors has reviewed and approved the Company's "14th Five-Year Plan", including the six development strategies of "value-led, innovation-driven, green and clean, making the enterprise stronger with talents, global development, integration and symbiosis" as well as the goal of high-quality development for the next five years. The Board of Directors will regularly review the completion of the goal. The Company has established a high-quality development target management mechanism, covering major ESG performance indicators such as greenhouse gas emissions, resource consumption and pollutant discharge, and will regularly review to check these indicators. At the same time, the Company integrates the Company's key ESG performance indicators such as workplace safety, energy conservation and environmental protection, and operation compliance as the KPI for key management staff and member enterprises, so as to contribute to the achievement of ESG objectives. In terms of the medium-term goals set for sustainable development, the Board of Directors will regularly review to check the process of these targets.

About Us

The Group is a leading energy and chemical engineering company in the PRC with strong international competitiveness and can provide domestic and overseas clients with overall solutions for petrol refining, petrochemicals, aromatics, coal chemicals, inorganic chemicals, pharmaceutical chemicals, clean energy, storage and transportation facilities, environmental protection and energy saving, among other industry sectors. The Group is an integrated service provider for the whole industry chain and the whole life cycle in energy and chemical industry and can provide overall industry chain services including engineering consulting, technology developing and licensing, project management contracting, financing assistance, EPC (engineering, procurement and construction) contracting, as well as design, procurement, construction and installation, lifting and transportation of large equipment, pre-commissioning and start-up.

After nearly 70 years of continuous development, the Group currently has one academician of the Chinese Academy of Sciences, three academicians of the Chinese Academy of Engineering and nearly 10,000 professionals. The Group has rich project management and implementation experience, and owns and cooperatively owns patents and know-how in core business areas. The Group has delivered on schedule hundreds of modern factories with enormous investment, complicated process, advanced technology and high quality to clients in more than 20 countries and regions around the world, established long-term and steady cooperative relationships with large energy and chemical enterprises at home and abroad, maintained an extensive and stable client base, and enjoys remarkable industrial influence and social reputation.

The Group has 11 wholly-owned enterprises in China: SINOPEC Engineering Incorporation Ltd., SINOPEC Luoyang Engineering Co., Ltd., SINOPEC Shanghai Engineering Co., Ltd., SINOPEC Ningbo Engineering Co., Ltd., SINOPEC Nanjing Engineering Co., Ltd., SINOPEC Guangzhou Engineering Co., Ltd., SINOPEC Fourth Construction Co., Ltd., SINOPEC Fifth Construction Co., Ltd., SINOPEC Tenth Construction Co., Ltd., SINOPEC Heavy Lifting & Transportation Co., Ltd., SINOPEC Energy Conservation Technology Service Co., Ltd., and SINOPEC Ningbo Research Institute Co., Ltd., as well as two branches: Luoyang R&D Center of SINOPEC Engineering (Group) Co., Ltd., and Information Technology Branch of SINOPEC Engineering (Group) Co., Ltd.

The Group was listed on the main board of the Hong Kong Stock Exchange on May 23, 2013.

In 2021, according to the Engineering News-Record (ENR)the Company ranked 44th among the world's top 250 engineering contractors, 86th among the international top 250 engineering contractors, 38th among the world's top 150 engineering design companies and 83rd among the international top 225 engineering design companies.

Economic Performance:

Total assets		RMB Billion	Revenue		RMB Billion
2021		72.917	2021		57.760
2020		71.465	2020		52.353
2019		67.874	2019		52.261
2018		70.873	2018		47.019
2017		59.406	2017		36.209

Profit before taxation		RMB Billion	Total taxes and fees		RMB Billion	Amount of new contracts		RMB Billion
2021		2.592	2021		2.276	2021		63.150
2020		3.011	2020		1.683	2020		63.014
2019		2.827	2019		2.548	2019		52.319
2018		2.122	2018		2.576	2018		50.927
2017		1.635	2017		2.267	2017		39.063

Organisational Structure



Topic1

Pool Forces and Drive Green Development through Innovation

Climate change is a globally shared responsibility and challenge. The announcement of the goal of "carbon peaking and carbon neutrality" in 2020 marked the opening of the green and low carbon curtain. Sustainable development, green and low carbon have become new development trends, and green transformation has become a new driving force for China's economic and social development. The development direction of petrochemical industry in green and low carbon will focus on promoting the revolution of energy production and consumption, the establishment of green industrial systems and urbanization and low carbon development, forming an industrial structure and production mode committed to saving resources and protecting the environment, promoting the sustainable development of China's economy, society and environment, and thus making important contributions to the response to global climate change.

Our opportunities

The goal of "carbon peaking and carbon neutrality" has put forward new requirements for the green and low-carbon development of the energy and chemical industry. The demand of refining and chemical enterprises for improving quality and efficiency, transformation and development is increasing day by day, providing vast market opportunities for the Company. The Group will actively respond to the challenge of climate change, take the initiative to act as a strategic scientific and technological innovation force for China's green development, take scientific and technological innovation as its development engine, provide high-end think tank support for the green, clean and efficient development of the industry, and help refining and chemical enterprises to enhance their green and low-carbon competitiveness, striving to become an innovative leading force for the green transformation of China's energy and chemical industry.

Our actions

Technological innovation is essential to the achievement of the goal of "carbon peaking and neutrality". Focusing on core technologies in key areas, the Group has carried out technological research in the fields of "oil producing chemicals", "oil to chemicals" and "oil to specialties", high-end chemical materials, whole industrial chain of hydrogen energy and CCUS (Carbon Capture, Utilization and Storage), taking the initiative to undertake major technology research tasks, promoting industry transformation and upgrading, increasing research and development of green and efficient process technologies, and providing momentum for green development.

During the reporting period, with regard to technology research and development, 38 national-level projects, 22 key scientific and technological projects and 20 major special projects undertaken by the Group went well. "PAO (Poly Alpha Olefin) Production Technology Development and Industrial Application" was successfully put into production, filling the technical gap of low-viscosity fully synthetic high quality lubricating oil in China. The technology of making ethylene through direct cracking of crude oil, known as "making bread with wheat", has been successfully tested by Tianjin Petrochemical Co., Ltd., opening up a new path for "reducing oil and increasing chemical content" and efficient utilization of crude oil. The R&D and industrial application of "the complex raw material complete sets technology for million tons grade of steam cracking to ethylene" won the first prize of the China National Science and Technology Progress Award, making important contributions to supporting the high-quality development of China's petrochemical industry.

During the reporting period, the Group accelerated the technological development of the whole industrial chain of hydrogen energy, undertook eight major hydrogen energy projects, such as hydrogen liquefaction, initially forming an integrated R&D pattern of hydrogen energy production, storage and transportation, and terminal utilization. Kuqa Photovoltaic Hydrogen Production Project, the largest green hydrogen project in the world, entered the project implementation stage, and the multi-thousands tons grade of green hydrogen projects in Ordos and Ulanqab was carried out as scheduled. The three hydrogen refueling stations in Xiwanzi, Chongli, Hebei Province, were successfully put into operation, providing hydrogen energy guarantee for the Olympics Winter Games. At the same time, the Group leaded and participated in the formulation of a series of hydrogen energy-related standards, vigorously promoting the construction of Sinopec's hydrogen energy industry chain and contributed to the high-quality development of China's hydrogen energy industry.

During the reporting period, the Group continued to expand the technical development in the field of new materials, the trial-device of polyolefin elastomer started construction in Maoming, the projects of low-cost large-tow carbon fiber of Shanghai Petrochemical Co., Ltd. and Qilu special rubber went well, laying a solid foundation for the Company's development in the field of new materials. At the same time, the carbon fiber partially developed by the Group was used for the shell of the Olympics Winter Games torch "Flying", which is high-temperature resistance and successfully solved the problems of and cold feel of the metal shell used for the torch relay in winter.

Case | "The complex raw material complete sets technology for million tons grade of steam cracking to ethylene" won the first prize of the China National Science and Technology Progress Award

The R&D and industrial application of "the complex raw material complete sets technology for million tons grade of steam cracking to ethylene" completed by SINOPEC Engineering Incorporation Ltd., a member company of the Group, won the first prize of the China National Science and Technology Progress Award.

Based on the source and structure of China's ethylene raw materials, the Group has developed this technology, using light raw materials such as light hydrocarbon and naphtha, heavy raw materials such as diesel oil and hydrogenated tail oil, and unconventional raw materials such as high olefin content, making China the first country to master such technology. This technology is generally at the international leading level and would drive over a trillion output value of downstream industries. This technology effectively support the high quality development of China's petrochemical industry, making a significant milestone for the whole industry.



Case | The technology of making ethylene production through direct cracking of crude oil has been successfully tested for the first time.

The technology of making ethylene production through direct cracking of crude oil has been successfully tested by Tianjin Petrochemical Co., Ltd. for the first time, realizing the first industrial application of the crude oil direct cracking technology in China. This technology, developed by SINOPEC Engineering Incorporation Ltd., a member company of the Group, is an important path of "oil to chemicals", which "skips" the traditional crude oil refining process and directly converts crude oil into ethylene, propylene and other chemicals, thus realizing the direct conversion from "wheat" into "bread", omitting the link of grinding it into flour and greatly shortening the production process and reducing the production cost, and significantly reducing the energy consumption and carbon emissions. Therefore, this technology is of great significance to the transformation and upgrading of China's petrochemical industry and the realization of the goal of "carbon peaking and carbon neutrality".



Case | The first domestic "plastic gold" was produced

On February 2022, the first domestic "3000t/year high-isotactic polybutene -1 industrial demonstration device" which was undertaken and partially developed by Sinopec Engineering Incorporation, a member company of the Group, was successfully put into operation, producing nearly 100 tons of qualified products.

Difficult to crack and being impact-resistant, tasteless, odorless and non-toxic, Polybutene -1 products are known as "plastic gold" and very suitable for being used as pipes, medical equipment, food packaging and medical packaging. Due to the difficulties in polymerization control and product processing of butene -1, however, only three companies in the world, i.e., Basell in the Netherlands, Mitsui in Japan and Aikang in South Korea, were able to produce butene -1, and all domestic high-end polybutene-1 products were imported. The success of the industrial demonstration of polybutene -1 technology marks a major technological breakthrough of Sinopec in the field of high-end synthetic new materials, making Sinopec the fourth enterprise in the world and the first in China that is able to continuously and stably produce polybutene -1 products.



Topic2

Do a Good Job in COVID-19 Pandemic Prevention and Control

The pandemic prevention and control is a tough battle and a daunting challenge. In 2021, actively responded to complicated situation of repeated pandemic, the Group adhered to the combined layered prevention and control with local emergency response in implementing various prevention and control measures, achieved double victories in pandemic prevention and control and safe production

In China, outbreaks of COVID-19 pandemic successively occurred in Nanjing, Ningbo, Guangzhou, Shanghai, Tianjin, Beijing, etc, which caused some impacts on the Group and project sites. From the perspective of resolutely ensuring safety, all member enterprises and projects made concerted efforts to overcome difficulties, actively worked with communities in pandemic prevention and control while doing a good job in their own work on pandemic prevention and control, and organized volunteer teams to participate in local pandemic prevention and control services, thus eventually winning the battles against the COVID-19 pandemic, fulfilling the responsibility of the enterprise and further consolidating the record of "zero infection" in the Company.

Despite the difficult situation overseas, the Group, thanks to its coordinated and active efforts, successfully kept the bottom line of "no gathering infection and no death due to infection", and organized employees to take turns off in an orderly manner. There were no confirmed, suspected or asymptomatic infected persons or returnees from overseas projects.

Build a "firewall" against the pandemic

With its "three-level" pandemic prevention and control system always operating in an efficient manner, the Group, adhering to the principle of the effective combination of normal prevention and control and emergency response, organized the whole chain control such as personnel inspection, health monitoring, nucleic acid testing and vaccination, thus withstanding the test of the pandemic which broke out many times in 2021.

Case | Blow the anti-pandemic horn at Zhenhai Base

In December 2021, many places in Zhejiang sounded the anti-pandemic alarm. The Project Department of Zhenhai Base of Ningbo Engineering Co., Ltd., a member company of the Group, quickly hit the ground running, kicked off its emergency plan and strictly implemented the latest pandemic control measures issued by Zhenhai District.

Sticking to their posts, the employees of the Project Department made all-out efforts to ensure the smooth and orderly construction of the project while doing a good job in pandemic prevention and control. The Department arranged more than 300 construction workers to stay in the dormitories in a unified way to ensure their health and safety. While doing a good job in pandemic prevention and control, the company showed great concern for the food, clothing, housing and transportation of employees and responded to their needs in time, thus ensuring effective control on the basis of being considerate towards employees.



Shanghai Engineering Co., Ltd. arranging its employees for collective COVID-19 vaccinations



Sinopec Fourth Construction Co., Ltd. going all out to ensure adequate supplies for the Project Department

Case | The world's largest multi-thousands tons grade of photovoltaic green hydrogen demonstration project

Xinjiang Kuqa green electricity hydrogen production and green hydrogen refining demonstration project is the world's largest photovoltaic green hydrogen production project under construction. Guangzhou Engineering Co., Ltd., a member company of the Group, is responsible for the overall plant. This project has successfully entered the implementation stage. At the same time, this project is China's first large project that produces hydrogen directly by photovoltaic power generation and Sinopec's first typical demonstration project running through the whole process of green hydrogen production and utilization, such as solar power generation, green electricity transmission, green electricity hydrogen production, hydrogen storage, hydrogen transportation, green hydrogen refining, etc.

This project has created a new development path for green hydrogen refining, and is of demonstration significance to the large-scale utilization of green hydrogen by refining and chemical enterprises to reduce carbon emissions. After the project is put into operation, the green hydrogen produced will be supplied to Tahe Refining and Chemical Co., Ltd. to replace the existing natural gas fossil energy to produce hydrogen, which could reduce carbon dioxide emissions by 485,000 tons per year. It is of great significance to ensuring national energy security, improving atmospheric environmental quality and promoting the upgrading of energy industry.



Case | Technological innovation contributed to the Beijing Olympics Winter Games

The torch of the Beijing Olympics Winter Games "Flying" was attracted worldwide attention. The carbon fiber composite material used in the torch was developed by Shanghai Engineering Co., Ltd., a member company of the Group. One of its technological highlights was that the torch shell was made of light-weight high-temperature resistant carbon fiber, showing the characteristics of "lightness, toughness and beauty". At the same time, the carbon fiber is high-temperature resistance and successfully solved the problems of and cold feel of the metal shell used for the torch relay in winter.

During the Beijing Olympics Winter Games, the Olympic Organizing Committee made extensive use of hydrogen fuel cell vehicles. As the cleanest and most environmentally friendly fuel, hydrogen can achieve complete zero emission. The three hydrogen refueling stations at Xiwanzi, Chongli, Hebei Province, built by SINOPEC Engineering Incorporation Ltd., a member company of the Group, were successfully put into use, providing green hydrogen energy guarantee for the Olympics Winter Games. As the first of its kind in China, all the three hydrogen refueling stations are designed with the hydrogen filling function of 70MPa pressure fuel cell, with the daily supply of 4000kg.



Torch delivery and acceptance ceremony



The largest hydrogen refueling stations with the highest filling pressure in China have been put into operation to serve the Olympics Winter Games

Topic3

System Construction Helps Improve the Company's Management Efficiency

During the reporting period, the Company focused on strengthening process management and risk prevention and control and benchmarking against international standards, took "carrying out the work on the construction and certification of the management system" as its annual key task and organized all staff to participate in the task. After one year's efforts, the Company improved its management system platform, formed 24 process modules, compiled 254 process control documents, revised 95 management systems, and established a management system based on risk thinking, process standards, strengthened process management and control, and integration with institutional systems.

The Company carried out the internal audit and management review of the management system, and conducted comprehensive and thorough analysis and discussion on the operation of the management system and the overall operation of the Company to ensure the suitability, sufficiency and effectiveness of the management system. At the same time, according to the audit results, the Company formulated the cause analysis and rectification plan for non-conformities, improvements and follow-up items, and worked out the follow-up rectification plan for the review comments put forward through the management review, thus ensuring the continuous improvement of the management system.

During the reporting period, the Company successfully obtained the QHSE management system certification certificate in line with ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 standards, and became the first listed company in China's petrochemical engineering industry to pass such certification. The construction and certification of the management system is of great significance for the Company to improve its management ability, specify its management interface, and define its work flow and standards, laying a solid foundation for building a world-leading technology-oriented engineering company and for achieving high-quality development.



QHSE management system certification certificate



Management promotion training meeting

Join the volunteer teams in fighting the pandemic

In response to the sudden outbreaks of the pandemic in different places, we organized employees to fight the pandemic and arranged young volunteers to participate in the pandemic prevention and control, fulfilling our social responsibilities as a central enterprise.



Guangzhou Engineering Co., Ltd. donating pandemic prevention materials to Guangzhou Youth League Committee



A banner given by the community to Sinopec Fifth Construction Co., Ltd. to express thanks



A thank-you letter to Nanjing Engineering Co., Ltd.

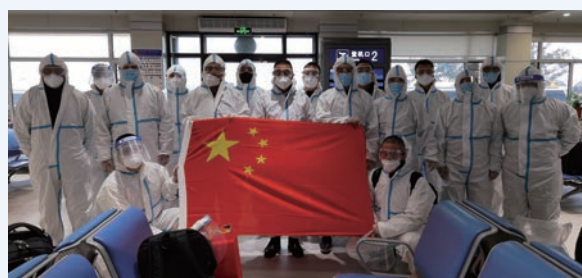


Young volunteers from Nanjing Engineering Co., Ltd. helping the Neighborhood Committee complete four rounds of nucleic acid testing which involved a total of about 23,000 people

Win the battle against the COVID-19 pandemic overseas

Overseas, we quickly set up the responsibility system for overseas pandemic prevention and control, formulated and updated the emergency plan for pandemic prevention and control as well as the work plan for normal pandemic prevention and control, increased the application and management of localized resources, and took effective measures to promote the resumption of work and production. During the reporting period, overseas project departments successfully withstood the test of the mutant viruses of Delta and Omicron against the odds, ensured the orderly implementation of the project.

Paying attention to employees' physical and mental health, we arranged employees for COVID-19 vaccinations and prepared pandemic prevention kits; carried out trainings on public safety and pandemic prevention knowledge for employees posted overseas, distributed pandemic prevention and control materials and subsidies, and regularly held overseas employees comforting meetings and pandemic prevention and control patrol meetings; invited experts to provide psychological counseling for overseas employees in response to overseas pandemic situations to alleviate their anxiety; specially organized commercial chartered flights for employees to return to China, realizing safe round trips for over 3,000 person-times throughout the year; and monitored the health of employees in the whole chain after they returned to China according to the requirements of pandemic prevention and control.



Successfully complete the chartered flight task to ensure that the construction of the Russian AGCC project can proceed on schedule



Sinopec Tenth Construction Co., Ltd. implementing the "Spring Seedling Initiative" in the country where the project is located

The Company has continuously improved its corporate governance structure, standardized the operation of the Shareholders' Meeting, the Board of Directors and the Board of Supervisors and the work of the Company's management in strict accordance with laws and regulations, constantly enhanced the corporate governance level, perfected its internal control system and enhanced its ability to resist risks; continuously improved its integrity and compliance management level, and standardized the behaviors of the enterprise, employees and supply chain partners to ensure the clean and efficient operation of the Company; improved the level of information disclosure, strengthened relations with investors, built an ESG concept system that benefits all parties concerned, and worked together with all stakeholders to achieve sustainable development.

SDGs issues that this chapter responds to

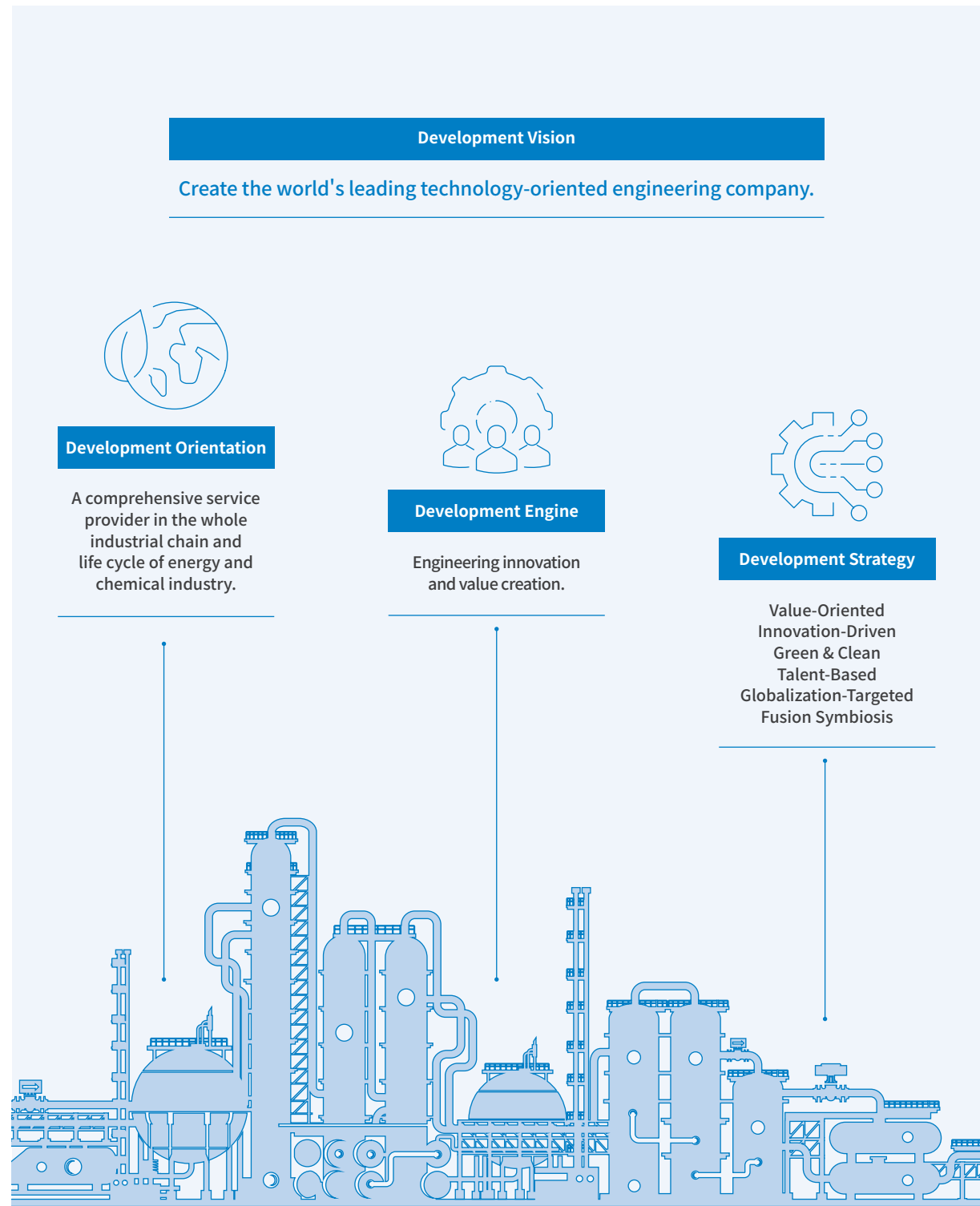


01 Management

- 16 Development Strategies
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Development Strategies

During the reporting period, the Company issued its "14th Five-Year Plan".



Corporate Governance

Construction of the Board of Directors

The Board of Directors is the core of corporate governance. The Company has continuously improved the composition of the Board of Directors, perfected the system of the Board of Directors and its special committees, and paid attention to the role of independent directors, thus laying a solid foundation for the Company's sustainable development. The Board of Directors is the decision-making body of the Company. In 2021, the Company held five Board meetings. Members of the Board give full play to their professional skills and exercise their powers as directors in accordance with relevant regulations, actively promoting the high-quality development of the Company.



The First Meeting of the Fourth Session of the Board

Diversification of the Board of Directors

When selecting candidates for the Board of Directors and appointing directors, the Nomination Committee will, according to the Group's business model and specific needs, consider the diversification of Board members from many aspects, including but not limited to professional experience, skills, knowledge, gender, region, culture, educational background, age and service term. The diversified composition of the Board of Directors helps the Company to standardize its operation and improve its decision-making level.

The Company pays attention to the implementation of the policy of diversification. The current Board members are from different industries at home and abroad and have rich working experience and professional knowledge in petrochemical, economics, accounting and finance, which helps the Board of Directors to make decisions in a scientific manner.



Members of the Board

Chairwoman **Sun Lili**



Mdm. Sun is an expert in refining and chemical engineering technology and management, a master of national engineering survey and design, and an academican of the Chinese Academy of Engineering. She is currently the member of Science and Technology Committee of Sinopec Group, the chairwoman of the Company and executive director of Sinopec Engineering Incorporation Ltd.. Devoted herself to the research and practice of refining and chemical engineering technology, Mdm. Sun has planned, designed and built many representative projects, such as, China's first self-developed Paraxylene Complex, the first single series ten-million-ton-grade refinery and the world's second largest high-acid natural gas purification plant. As the winner of 2 special prizes for National Scientific and Technological Progress Award, and of the Ho Leung Ho Lee Foundation Science and Technology Innovation Award and the Hou Debang Chemical Science and Technology Achievement Award, Mdm. Sun enjoys the special government allowance from the State Council. Mdm. Sun has made significant contributions to the green development of China's refining and chemical industry, ensuring national energy security and serving the people for their better lives.

Vice chairman **Xiang Wenwu**



Mr. Xiang is a senior economist with a Ph.D. degree. He is currently the vice Chairman of the Board and also serves as the executive director of Sinopec Fourth Construction Co., Ltd.. With more than 30 years' working experience in China's energy engineering industry, he successively served in managerial positions at The Second Construction Company of Sinopec and Sinopec Nanjing Engineering Co., Ltd.. With comprehensive and rich experience of technology and management in engineering, Mr. Xiang has made significant contributions to the green, low-carbon, environment-friendly, safe and high-quality development of China's energy industry.

Director **Wang Zizong**



Mr. Wang is a senior engineer with a Ph.D. degree. He is currently a director of the Board and also serves as deputy chief engineer of Sinopec Group, general manager of information and digital management department of Sinopec Group, general manager of information and digital management department of Sinopec Corp., and chairman of Petro-CyberWorks Information Technology Co., Ltd.. With more than 30 years of working experience in China's energy industry, he successively served in managerial positions at Beijing Petrochemical Engineering Co., Ltd. and Sinopec Engineering Incorporation. Mr. Wang has made significant contributions to the green, low-carbon, environment-friendly, safe and high-quality development of China's energy industry.

Director **Li Chengfeng**



Mr. Li is a senior engineer with a master degree. He is currently a director of the Board, and also serves as deputy chief engineer of Sinopec Corp., general manager of chemical business department of Sinopec Corp., chairman of Shanghai SECCO Petrochemical Co., Ltd., chairman of AGCC project joint venture, executive director of Sinopec Asset Management Co., Ltd., and Vice Chairman of ZTHC Energy Co., Ltd.. With more than 30 years of working experience in China's energy industry, he successively served in managerial positions at BASFPC Company Limited, Sinopec Yangzi Petrochemical Company Limited, Sinopec Chemical Commercial Holding Company Limited, Sinopec Chemical Commercial Holding (Hong Kong) Co., Ltd. and Sino-Korean (Wuhan) Petrochemical Co., Ltd.. Mr. Li has made significant contributions to the green, low-carbon, environment-friendly, safe and high-quality development of China's energy industry.



Director **Wu Wenxin**

Mr. Wu is a senior engineer with a master degree. He is currently a director of the Board, and also serves as the general manager of the engineering department of Sinopec Group, and the general manager of the engineering department of Sinopec Corp.. With more than 30 years of working experience in China's energy industry, he successively served in managerial positions at Fujian Petrochemical Co., Ltd. and Fujian Refining & Petrochemical Co., Ltd.. Mr. Wu has made significant contributions to the green, low-carbon, environment-friendly, safe and high-quality development of China's energy industry.



Director and general manager **Jiang Dejun**

Mr. Jiang is a senior engineer with a Ph.D. degree. He is currently director of the Board and President of the Company. With more than 30 years' working experience in China's energy industry, Mr. Jiang successively served in managerial positions at Lanzhou Design Institute of Sinopec Group, Ningbo Engineering Co., Ltd. of Sinopec Group, Sinopec Engineering Co., Ltd., the Engineering and Enterprise Management Department of Sinopec Group, Sinopec Fifth Construction Co., Ltd., Sinopec Engineering Incorporation, and Sinopec Engineering (Group) Co., Ltd.. With comprehensive and rich experience in technology and management, Mr. Jiang has made significant contributions to the green, low-carbon, environment-friendly, safe and high-quality development of China's energy industry.



Independent director **Xu Zhaozhong**

With over 50 years'experience in securities and investment, Mr. Xu is currently an independent director of the Company. He is currently Chairman and Administrative President of Lukfook Financial Services. He has served as director and vice chairman of the Board of Directors of the Hong Kong Stock Exchange, a member of the Advisory Committee of the Securities & Futures Commission of Hong Kong and a member of the Real Estate Investment Trust Fund Committee, director of the Hong Kong Securities Clearing Company Limited, member of the Listing Committee of the Hong Kong Exchanges and Clearing Limited, member of the Securities and Futures Appeals Tribunal, member of the Standing Committee of Company Law Reform, and member of the Investigation Panel of the Hong Kong Institute of Certified Public Accountants. Mr. Xu has made significant contributions to improving the governance quality of the companies listed in Hong Kong and to promoting the company's compliance operation.



Independent director **Jin Yong**

Mr. Jin is an academician of the Chinese Academy of Engineering and is currently an independent director of the Company. He is also president of Tsinghua University's Institute of Chemical Science and Technology, professor of Tsinghua University's Department of Chemical Engineering, executive director of the Chinese Society of Particuology and executive director of the Chemical Industry and Engineering Society of China. He used to be a lecturer, associate professor, professor and doctoral supervisor at Tsinghua University's Department of Chemical Engineering. With more than 60 years' working experience, Mr. Jin has made significant contributions to China's energy science and technology progress, green and low-carbon development as well as the realization of the goal of "carbon peaking and carbon neutrality".

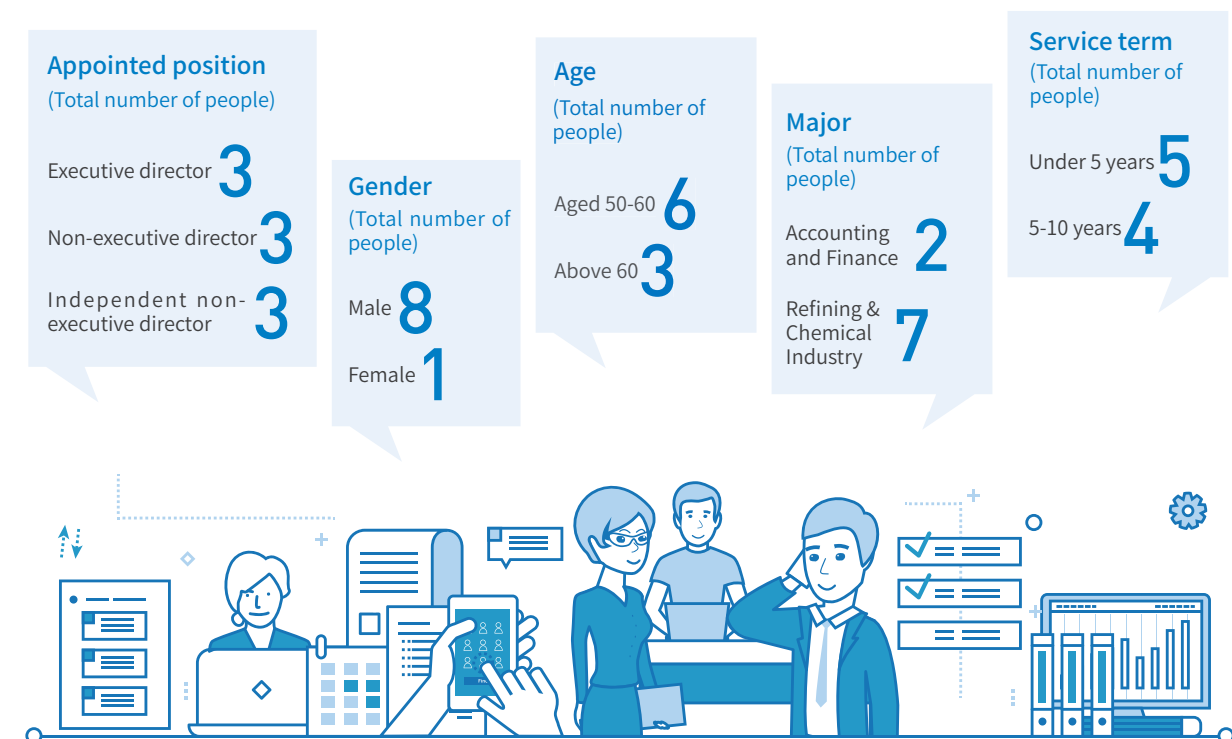


Independent director **Ye Zheng**

Mr. Ye holds a bachelor's degree in Accounting and Finance and a master's degree in Business Administration. He is a member of the American Institute of Certified Public Accountants and the Hong Kong Institute of Certified Public Accountants. He was a consulting expert for the third session of the committee for enterprise internal control standards appointed by the Ministry of Finance of the People's Republic of China. He is currently an independent director of the Company and a director of Ace Sustainability & Risk Advisors Limited. With more than 25 years'working experience in auditing, internal control and risk management, Mr. Ye has made significant contribution to improve the Company's effectiveness of internal control and operation.

For more details of the resumes of the Board members, please refer to the 2021 Annual Report of the Company.

Structure of the Board of Directors



Independency of the Board of Directors

The Company has established a perfect independent director system and selected independent directors from domestic and foreign celebrities and industry experts in strict accordance with the election procedures and qualifications stipulated in the Articles of Association to ensure that independent directors account for not less than 1/3 of the Board members.

Independent directors conscientiously perform their duties in accordance with the Company's Work System for Independent Directors. When expressing independent opinions on company affairs, they pay special attention to the following items: major related transactions, annual profit distribution plan, appointment and dismissal of senior management personnel, and matters that may harm the interests of medium and small shareholders. Besides exercising the general functions and powers of directors, the Articles of Association also endows independent directors with some special functions and powers to ensure that they can effectively safeguard the legitimate rights and interests of shareholders, especially medium and small shareholders.

Independent of the Company's management and other interests, independent directors can independently play a supervisory role and provide objective suggestions for the Company's decision-making. In the formulation and voting process of the triennial related transaction plan during the reporting period, the independent directors of the Company played an active supervisory role and exercised their suggestion functions, helping the Company to make fair and reasonable decisions that complied with the interests of the Company and all shareholders.

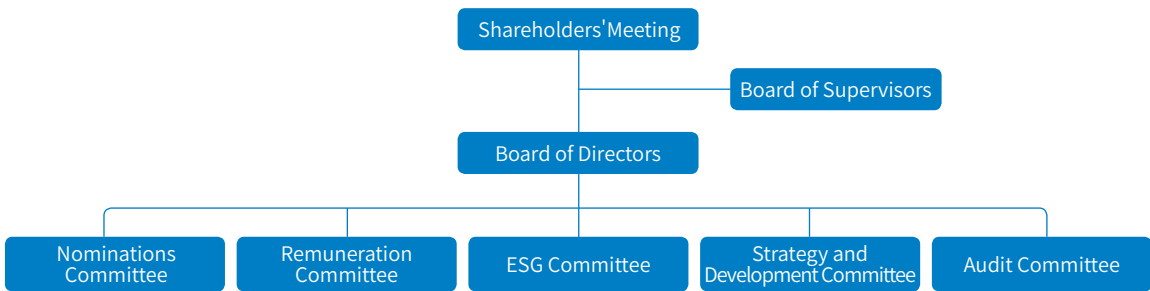
Governance structure

Strictly abiding by the Company Law of the People's Republic of China, the Listing Rules of the Stock Exchange of Hong Kong Limited as well as other relevant laws, rules and regulations, the Group has established a corporate governance structure with Shareholders' Meeting, Board of Directors, Board of Supervisors and senior management as its main subject in accordance with the Articles of Association and other relevant systems, and continuously improved the governance rules and management system characterized by clear rights and responsibilities, standardized operation, mutual coordination and mutual checks and balances among power organs, decision-making organs, supervisory organs and the management so as to achieve high-level corporate governance.

In order to give full play to its functions and improve its decision-making quality, the Board of Directors of the Company has set up five special committees, i.e., the Strategy and Development Committee, the Audit Committee, the Nomination Committee, the Remuneration Committee and the ESG Committee. All members of each special committee are directors of the Company.

Strategy and Development Committee	Be responsible for studying the Company's long-term development strategy, major capital expenditure and investment and financing decisions, etc.
Audit Committee	Make suggestions on the employment, renewal, dismissal and audit fees of the independent auditors of the Company; review the financial statements that the Company submits to the Board of Directors, and check the Company's financial policies, internal audit system, internal control system, risk management system, etc.
Nomination Committee	Make recommendations to the Board of Directors on the appointment or re-appointment of directors and the succession plan of directors, hunt for people with suitable qualifications to serve as directors, and select and nominate people to serve as directors or offer advice to the Board of directors on this.
Remuneration Committee	Study the remuneration structure and policies of all directors, supervisors and senior management of the Company and make recommendations to the Board of Directors, or determine the remuneration and benefits of individual executive directors and senior management members with the authorization of the Board of Directors or make recommendations to the Board of Directors. The remuneration of directors shall be determined in accordance with relevant national laws and regulations and the Company's relevant remuneration management regulations.
ESG Committee	Make recommendations to the Board of Directors on major decisions related to ESG development (including environment, society and governance, etc.); Supervise the implementation and progress of the Company's ESG development strategy and plan; Supervise the Company's commitment and performance on key issues such as climate change, ensuring health and safety and fulfilling social responsibilities, and make suggestions to the Board of Directors; Pay attention to the important information of ESG development related to the Company's business, study ESG development-related issues, and make suggestions to the Board of Directors; Review the annual ESG report of the Company and make recommendations to the Board of Directors.

Governance structure of the Company



For more information of corporate governance, please refer to the 2021 Annual Report of the Company and the the Company's website.

Compliance Operation

The Group has always adhered to the rule of law, adhered to the integrity culture of "keeping promises and operating in compliance", continuously improved the integrity and compliance management level, focused on key areas, key links and key personnel, implemented the "zero tolerance" policy for corruption and business ethics violations, and resolutely put an end to all forms of corruption.

Compliance management

During the reporting period, the Company formulated and published the Work Plan for Promoting the Construction of Compliance Management System of Refining & Chemical Engineering Group, promoted the construction of the sector compliance system, built a compliance management system with perfect system, standardized business process and effective working mechanism, and formed a complete "three lines of defense" for compliance management and a sound mechanism featuring compliance risk identification, early warning, reporting, investigation, emergency response, disposal and accountability.

During the reporting period, the Company started to promote the construction of its compliance management system in an all-round way, and compiled the Chinese and English versions of the Scheme for Comprehensively Promoting Compliance Management System of Sinopec Engineering Group and the Integrity and Compliance Manual of Sinopec Engineering Group, issued the compliance management process and flow chart and established a relatively complete compliance operation mechanism so as to minimize the possibility of the occurrence of major legal risks. At the same time, the Company also carried out compliance management training and compliance commitment signing to promote the construction of the Company's compliance culture, thus providing strong compliance guarantee for its operation and development.

During the reporting period, the Company issued the Compliance Management Guidelines for Business Partners of Sinopec Engineering Group, the Compliance Management Guidelines for Economic Sanctions of Foreign-related Business of Sinopec Engineering Group and the Compliance Management Guidelines for Overseas Anti-Corruption and Commercial Bribery of Sinopec Engineering Group, covering three business areas, i.e., business partners, foreign-related business sanctions and overseas anti-corruption and commercial bribery. At the same time, the Company also carried out compliance commitment signing among employees, cultivated and established all-employee compliance culture, further strengthened the prevention and control of compliance risks in key business areas, improved the construction of the Company's compliance management system, and consolidated the defense line of legal compliance risks. During the reporting period, no major legal compliance event occurred.

Anti-corruption management

The Group strictly abides by the Criminal Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China, the Company Law of the People's Republic of China and the Interim Regulations on the Prohibition of Commercial Bribery, as well as the local relevant laws and regulations applicable to the prevention of bribery, extortion, fraud and money laundering, and opposes all forms of corruption and unfair competition. During the reporting period, no lawsuit against corruption or bribery was filed.

Case | An anti-corruption education & warning meeting

In September 2021, the Group held an anti-corruption education and warning meeting in the combined form of "online + offline". Directors of the board, management team and middle-level managers, key positions and relevant managers of some member enterprises attended the meeting which has been instrumental in further building the Company's clean culture.



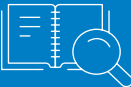
Risk Management

The Company has established a risk management and internal control system, and set up a risk management committee composed of the chairman, senior management and heads of functional departments which is responsible for the construction and operation of the Company's risk internal control management system and the decision-making of major risk management matters. Member enterprises have set up comprehensive risk management leading groups which are responsible for the soundness of the Company's risk internal control management system and the effectiveness of its risk internal control management work, formed risk prevention and management mechanism that runs through the top to the bottom and is horizontally coordinated, and regularly evaluated and monitored its effectiveness so as to protect the overall interests of the Company and its shareholders and further promote the sustainable development of the Group.

Each functional department of the Company and member enterprises identify, analyze and evaluate risk factors and risk points in a timely manner in various professional fields such as safety, quality and anti-corruption in the production and operation process, deeply integrate risk management with internal control system, QHSE (Quality, Health, Safety and Environment) management system, integrity risk prevention and control system and other management systems, put forward countermeasures and solutions, and put them in place in key points of internal control to form a comprehensive risk management system featuring goal setting, risk identification, risk evaluation, risk response, risk supervision and improvement so as to ensure that the major risk factors significantly affecting the Group can be fully covered and controlled.

During the reporting period, the Group formulated the Credit Risk Management Regulations of Sinopec Engineering Group and the Management Regulations of HSE Risk Control and Hidden Danger Investigation and Management of Sinopec Engineering Group (Trial), organized the formulation of the Promotion Plan for the Construction of Major Operational Risk Management and Control System Based on the Entire Life Cycle of Project Contracts, steadily promoted the implementation of the major operational risk management and control system, followed the problem-oriented philosophy, adhered to the principle that "risks and compliance must be managed in business management", strengthened the management and control of major risks, specified the risk management responsibility according to the annual major risks determined by the Company, defined the goals and plans on risk management and control, formulated and improved the countermeasures, and resolved and eliminated potential risks in time, thus constantly improving the risk management system and laying a solid foundation for the high-quality development of the Company.

Risk category	Countermeasure
Safety Risks	- Implement dynamic management throughout the whole process, and enable risk identification and control to intersect the whole process of production and operation business such as design, procurement, construction, manufacturing, and research and development; - Conduct the level-to-level management based on major risks, greater risks, general risks and low risks; - Evaluate the safety risks caused by extreme environment and extreme weather in the production and operation links; - Include the risk management work in the scope of safety production performance assessment of the Group.
Procurement Risks	- Establish procurement risk report and early-warning system, annual risk report, and irregular special risk report system; - Manage the material procurement risks by classification, regularly improve and update the procurement risk list, track and monitor the risk management; - Continuously supervise, inspect and improve the effectiveness and efficiency of procurement risk management.
Overseas Public Safety Risks	- Conduct risk identification, risk analysis, risk evaluation, and risk classification of the public security of countries (regions) where overseas institutions and projects are located; - Inspect the risk assessment of overseas institutions and projects of the units dispatched by the Group on an irregular basis, and take the inspection results as the basis for year-end performance assessment.
Market Development Risks of Overseas Projects	- Collect and analyse risk events in accordance with economy, culture, laws, public security, credit standing of the owner, funds and their sources, requirements of the owner, and bidding methods to determine the risk level of the project; - Carry out project bidding quotation and risk management throughout the whole process of execution stage, and compile project risk assessment reports through identifying, analysing and assessing risks and dealing with results.
Legal Risks	- Formulate the relevant systems, evaluation standards, and assessment methods for the management of legal risks of the Group, and prepare risk management reports; - Establish, update and maintain the legal risk database; - Identify, evaluate, prevent and control legal risks, and implement the legal risk responsibility system for key posts related to the business process.
Probity Risks	- Analyse, study and evaluate the probity risk information, and give "red, yellow and blue" risk early warning for possible corruption; - Sort out the functions and powers of risk-related posts, and study the possible probity risks of the posts; - Propose prevention and control measures with strong pertinence, operability and practicality as per the manifestation, cause and rating of probity risk points; - Adjust and improve the content and level of and measures for probity risks according to the self-examination, inspection and evaluation, and in combination with the adjustment of internal control system, transformation of operation mode, management process reengineering, and change of duties and authority.

 Build an anti-corruption system in an all-way way	Thirteen management regulations, including the Anti-Fraud Management Regulations of Sinopec Engineering Group and the Implementation Regulations on Integrity Risk Prevention and Control of Sinopec Engineering Group, were formulated, and the Management Regulations for the Registration of Gifts and Money in Domestic Exchanges of Sinopec Engineering Group were issued and implemented, so as to develop the awareness of integrity and self-discipline among all employees, partners, suppliers and subcontractors of the Company and effectively create a clean business environment.
 Establish a major supervision system	A major supervision system featuring comprehensive supervision, special supervision, functional supervision, daily supervision and democratic supervision was established. During the reporting period, the Group closely focused on its central work on rectifying formalism bureaucracy in the field of safety and environmental protection, adhered to the idea of treating both the symptoms and root causes, continuously promoted the multi-department joint supervision and multi-matter integrated supervision model, and inspected a number of key projects.
 Carry out tour inspection	The Group continued to carry out tour inspections so as to prevent and resolve major risks, focusing on the member enterprises that have failed to fulfill the "two responsibilities", made inadequate efforts in the rectification of internal review and external inspection, accused by letters and visits, and performed poorly in operation and management.
 Strengthen anti-corruption among suppliers	Strictly implement the Management Regulations of Sinopec Group on the Bidding and Tendering for Materials Procurement, and a reasonable management strategy for suppliers, and adopt fair, open and transparent procurement methods and standardized bidding system and process to prevent corruption; compile the Discipline for Procurement and Procurement Integrity and Self-discipline Regulations, hold fast to regulations, strengthen process supervision, and eliminate corruption; continuously optimize and improve the procurement management and operation platform to fully realize the online procurement of all kinds of materials and services within the Group, and open the data of the whole procurement process for the supervision department, so as to realize real-time audit and review, and make the procurement process more open and transparent.
 Improve the tip-off mechanism	Set up tip-off channels, including tip-off hotline, tip-off mailbox, e-mail, etc., and receive tip-offs on violations of laws and regulations through multiple channels. At the same time, we manage letters and visits so strictly that and it is strictly prohibited to withhold, destroy or disclose them without permission. It is strictly prohibited to check the information such as the notes and IP addresses of the informants without permission. For the real-name tip-off, we contact the whistleblower in an appropriate way, obtain and verify the clues without revealing the identity of the whistleblower, and give priority to the handling and disposal of the real-name tip-off letters, and implement the "two-feedback" measure, i.e., informing the real-name whistleblower of the acceptance within 15 working days from the date of receipt of the accusation, and feed back the handling results to the real-name whistleblower within 15 working days from the date of completion.
 Carry out daily integrity education	Focus on the daily education on integrity, and guide employees to learn from the cases around them. Steadily carry out the anti-corruption education month activity, and enhance the discipline awareness and regulation awareness of cadres and employees. Keep reminding all employees of maintaining integrity before holidays.
 Carry out integrity education among directors of the board and management team	Conscientiously implement the Implementation Opinions of Sinopec on Strengthening the Supervision of the "Top Leaders" and Leading Groups. Regularly urge the directors of the board and senior management to study the relevant regulations and requirements of the state on combating corruption and advocating integrity and cases of violation of laws and regulations, and hold talks (by the Company's senior management) with the personnel in charge of departments (units) or working at key positions.

Sustainability Management

Integrating the concept of sustainable development into the development and daily operation of the enterprise, the Group has built an ecological value system with the government, shareholders, employees, clients, partners and other stakeholders to create a win-win situation, constantly promoting the construction of ESG culture of the Company and striving to create economic, social and environmental value.

ESG management philosophy

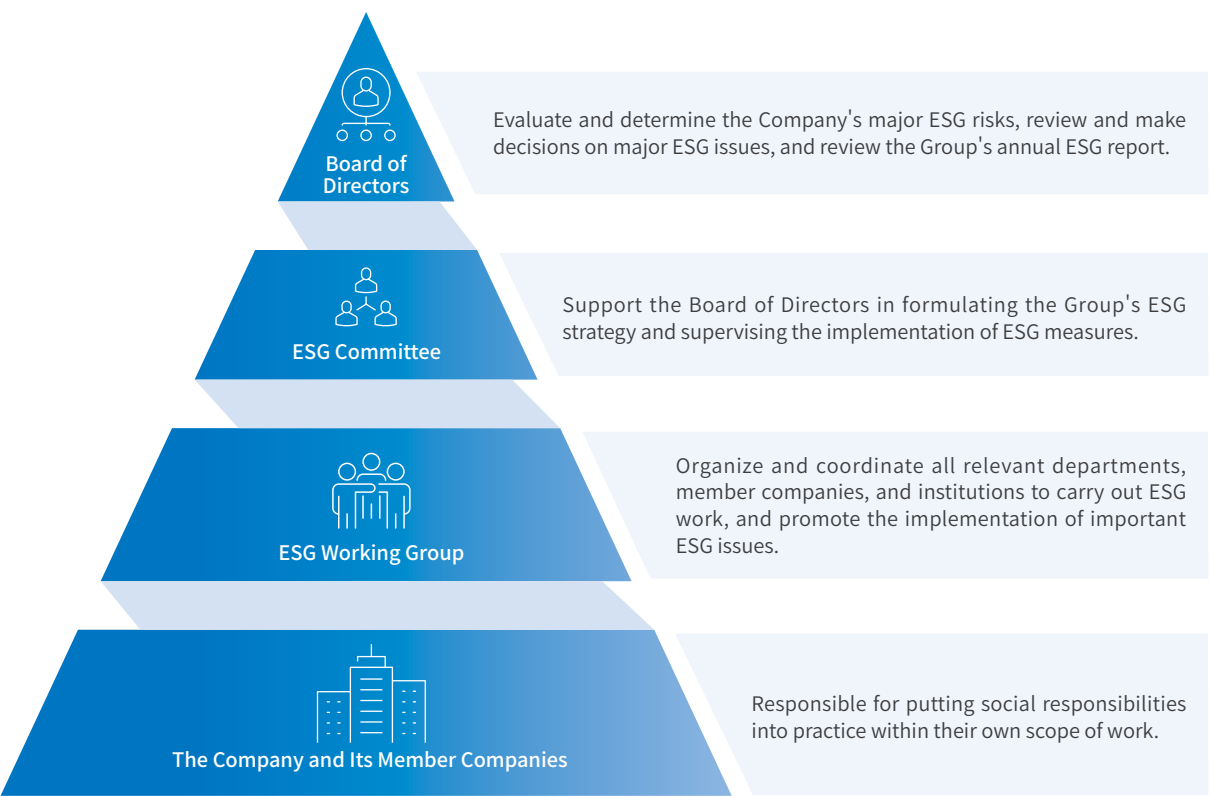


Sustainability organization system

The Group has continuously improved its management and organization system of sustainable development and strengthened the top-level design of sustainable development. The Board of Directors of the Company shall assume the ultimate responsibility for ESG governance. The ESG Committee of the Board of Directors is responsible for studying and overseeing the commitment and performance of the Company's key ESG issues, working with other special committees and the Company's management departments to bring ESG into the categories of internal control, risk management, strategic planning, salary incentives, and for reporting ESG implementation results and major plans to the Board of Directors. Composed of five directors and with the chairman acting as its director, the ESG Committee will hold meetings at least once a year or temporary meetings when necessary, and communicate with the Board of Directors on ESG-related issues in due course. Under the ESG Committee, an ESG working group has been set up to organize relevant departments and institutions to jointly carry out ESG work and promote the implementation of important ESG issues. Each member enterprise puts its social responsibilities into practice within its own scope, and reports ESG performance every year according to the actual needs.

During the reporting period, the Group further improved the reporting mechanism of ESG information and the mechanism of linking with member enterprises, formed a standardized process for collecting and reporting ESG information, and organized member enterprises to carry out special ESG training, which effectively improved the Group's ESG management level and ESG information disclosure level.

Sustainable development governance structure



Stakeholders communication

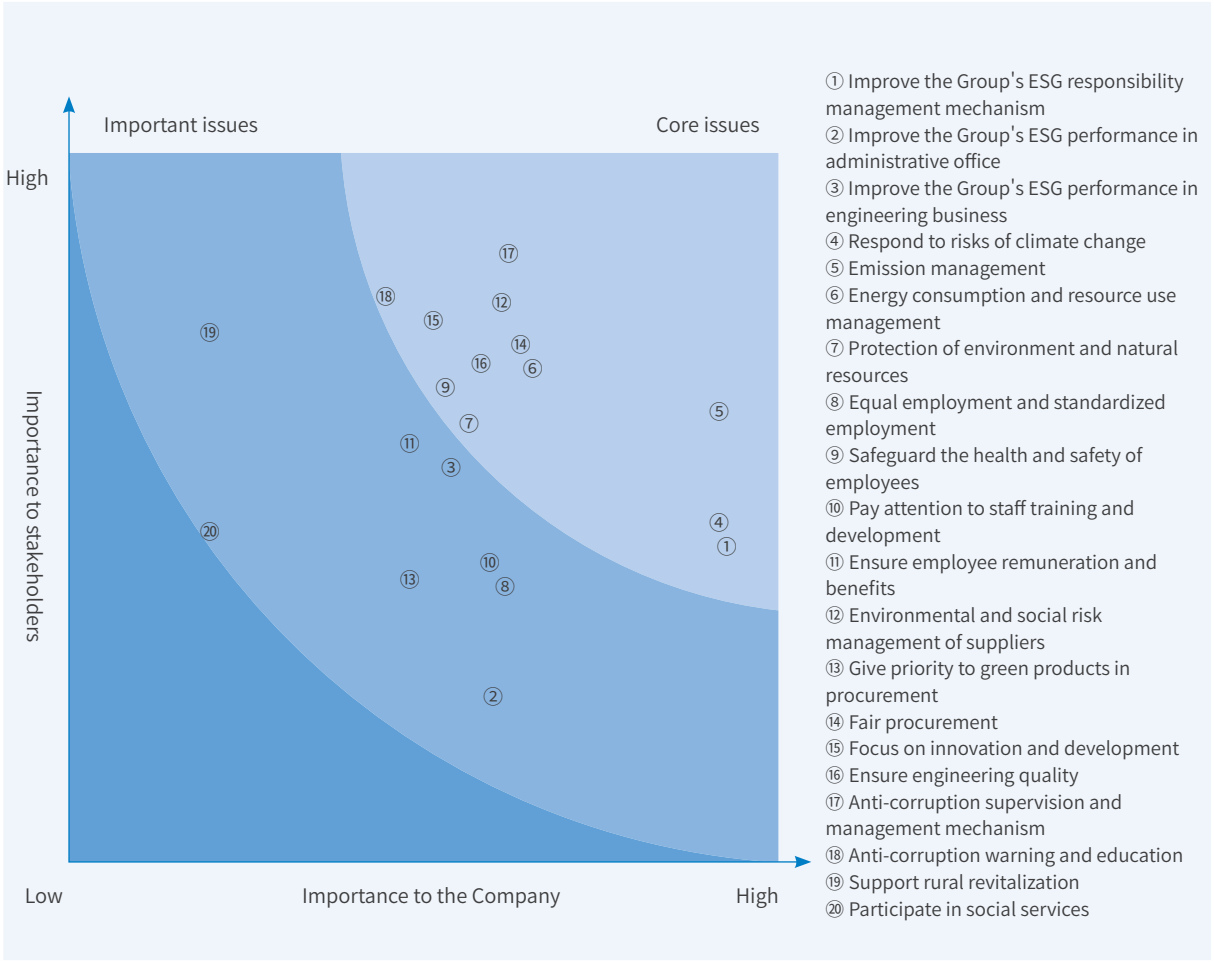
The Group has actively identified various stakeholders, made clear the expectations and demands of 11 categories of stakeholders through effective communication, and turned the relevant demands into sustainable development actions and plans, and effectively strengthened its own capacity building so as to ensure that the development of the enterprise can be more fruitful and benefit more groups.

Demands of Stakeholders and Response

Stakeholders	Expectations and Appeals	Communication and Response
Government and Regulatory Authorities	Serve national development strategy Abide by laws Preserve and increase the value of state-owned assets Pay taxes in accordance with law	Actively implement national development strategy Carry out compliance management in accordance with law and realise stable operation growth Constantly increase tax contribution
Business Partners	Be honest and fulfil agreements Prevent and control risks Achieve win-win cooperation	Carefully fulfil contracts Strengthen operation risks management Strengthen strategic cooperation
Investors/Shareholders	Satisfactory return Strict risks control Good credit rating Smooth information communication	Carry out stable operation and improve operation performance Standardise corporate governance and carry out operation in accordance with law Implement leading investor relationship management Keep adequate timely information communication
Experts	Benchmarking projects in terms of both safety and quality Green and low carbon development Promotion of industrial upgrading	Promote essential safety management Help construct green factories
Clients	Be honest and fulfil agreements Information transparency Privacy protection Excellent products Quality services	Publicity activities Clients visits Questionnaire survey Interaction through official website, WeChat
Employees	Protection of employee's rights and interests Co-growth Guarantee of compensation and benefit Health and safety Care for employees	Fair employment policy Complete compensation and incentives mechanism All-round employee training Diversified occupational development platform Healthy working environment Considerate humanistic care
Supply Chain	Win-win cooperation Co-development Resources sharing	Good cooperation relationship Smooth communication channels Execution of cooperative agreement in a careful manner Shared prospective study
Environment	Environmental protection Greenhouse gas emission Discharge of waste Effective utilisation of resources Natural resources protection	Strengthen energy conservation and emission reduction Innovate environmental protection technologies Implement Green Enterprise Action Plan
Community	Promote local economic development Infrastructure construction Promotion of employment Charity Participation of community	Community support and guidance Communication with community Poverty alleviation Charitable donation Volunteer activities Public open day
Public and Media	Openness and transparency of enterprise information Maintain good public relationship	Actively carry out news report and publicity Keep smooth communication channels with public and media
NGO	NGO support and cooperation Harmonious cooperation	Support NGO activities Strengthen communication with NGO

Identification of important issues

The Group assesses the important environmental, social and governance matters which related to our business from the two aspects of the importance of such topics to the stakeholders and to the Group respectively based on communication with stakeholders and the actual situation of the Company in accordance with the Appendix 27 Environmental, Social and Governance Reporting Guide of the Listing Rules and other international standards and form a matrix of key topics after screening to serve as the basis of the Company's ESG focuses and disclosure.



Adhering to the concept of a community of life for man and nature, the Group is committed to the high-quality development of pro-ecology, green and low carbon, accelerating the deepening of the action plan for green enterprises, actively responding to climate change, taking technological innovation as the guide, focusing on energy conservation and emission reduction, and giving priority to ecological protection, so as to help build a clean and beautiful world of green mountains, clear water and fresh air.

SDGs issues that this chapter responds to



02 Environment

- 32 Advanced Technology-led
- 34 Strict Environmental Management
- 35 Dedicate Clean Energy
- 36 Green Enterprise Initiative
- 37 Practices Related to Energy Conservation and Emission Reduction
- 45 Bio-diversity Protection
- 46 Address Climate Change

Advanced Technology-led

The Group will continue to strengthen scientific and technological innovation, build green and efficient productivity with advanced technology, and realize green and clean high-quality development, so that each of our works is endowed with the high-quality genes of green, efficient and low-carbon development.

For more details of scientific and technological innovation, please refer to Topic 1 "Pool forces and drive green development through innovation" in this report from page 8 to 10.



The million-ton-level ethylene complete-set technology won the first prize of the China National Science and Technology Progress Award

Technological innovation contributed to the Beijing Olympic Winter Games



The technology of making ethylene through direct cracking of crude oil has been successfully tested for the first time

The world's largest 10,000-ton-level photovoltaic green hydrogen demonstration project

The first domestic "plastic gold" was produced



Historical honor

The special prize of China's National Science and Technology Progress Award



The special prize of China's National Science and Technology Progress Award

- High-efficiency and environmentally friendly Paraxylene(PX) technology
- Application of gas field development technology in super-large ultra-deep high sulfur gas field
- New technology of butadiene rubber industrial production

The first prize of China's National Technological Invention Award

- Methanol to low carbon olefins (DMTO) technology

The second prize of China's National Technological Invention Award

- Application of new catalytic materials of fully crystalline composite pore molecular sieves
- New technology for process emission reduction of fine particle pollutants in major chemical plants

The first prize of China's National Science and Technology Progress Award

- Complex raw material complete sets technology for million tons grade of steam cracking to ethylene
- Large-scale Modernized Coal Chemical Industry for Coal-to-Liquid and/or Olefin Technology
- Design, manufacture and maintenance of critical pressure vessels under extreme conditions
- Naphtha catalytic reforming technology
- Complete set of technology for residual oil hydrotreating (S-RHT)
- Ring-pipe process for polypropylene technology
- Application of energy-saving transformation technology for Crude distillation units
- RN-1 Hydrofining Catalyst and Process

The Special prize of Major Technical Equipment of the State Council

- Technical Development of SH-1 Steam Cracking Furnace



Strict Environmental Management

Adhering to the road of green and low-carbon development, the Group has constantly improved its environmental management system, comprehensively identified and undertaken relevant laws, regulations, standards and norms such as ecological protection, energy conservation, water conservation, low carbon and environmental protection, and formulated system documents that comply with the realities and meet the actual requirements, including environmental management systems and environmental technology systems.

The Group has set up the HSE (Health, Safety and Environment) Management Committee, with the chairman acting as its team leader, and one director, four senior executives and the top management of each member enterprise as its team members. As the decision-making organ of environmental protection policies, the HSE Management Committee is responsible for examining and approving the Company's environmental development plan and relevant rules and regulations, coordinating and solving environmental problems, and supervising the fulfillment of environmental protection duties.

Strengthen daily supervision and inspection, set up an environmental supervision group, adhere to the combination of "Four Nos and Two Directs" and "special supervision" on a daily basis, strengthen on-site supervision and inspection, and focus on strengthening supervision and inspection and "look-back" on the building of green construction sites and the implementation of pollution prevention and control measures through supervision and inspection, assessment and notification, and evaluation of the first and the best, so as to achieve closed-loop management and make continuous improvement.

Carry out system audit, and formulate the Detailed Rules of Sinopec Engineering Group for Environmental Audit of HSE System, covering the whole process of leadership, commitment and responsibility, planning, support, operation, performance evaluation and improvement. Conduct system audit among member enterprises, find out the gap and weak part between the environmental management of member enterprises and Sinopec Group's environmental management requirements, and comprehensively evaluate the operation of the environmental management system so as to ensure the effective operation of the system and improve the Group's environmental management level.

We are active in encouraging member enterprises to carry out ISO environmental management system certification. As of the reporting date, 11 member companies of the Group have passed the environmental management system certification.



Dedicate Clean Energy

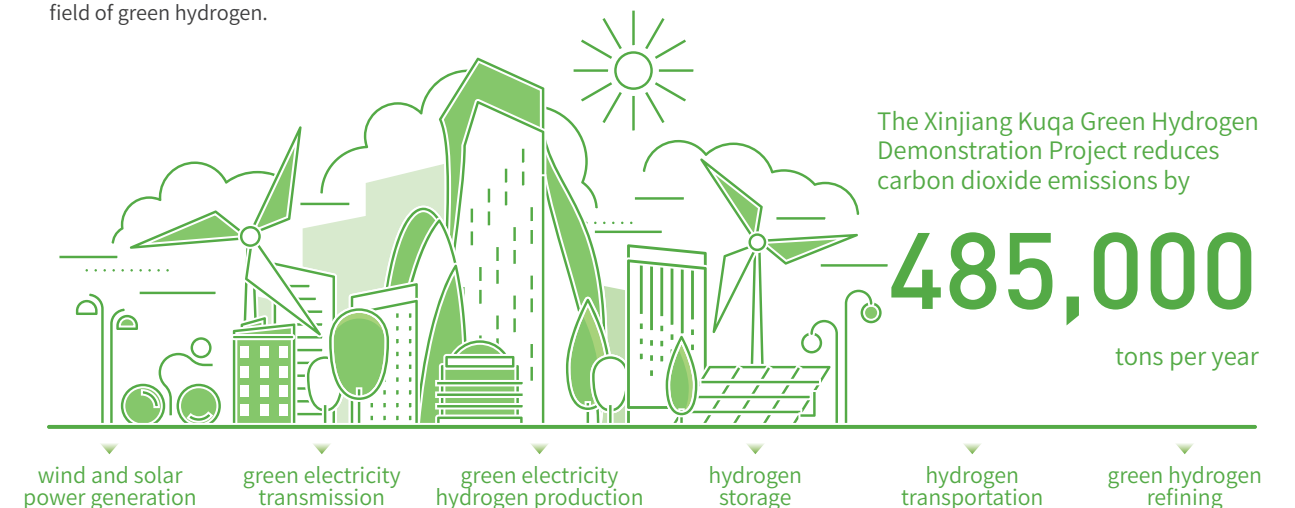
Developing clean energy is the only way to achieving the goal of "carbon peaking and carbon neutrality". The Group is committed to continuously promoting the development of new energy and strengthening the integrated innovation and application of new energy.

Hydrogen energy

Hydrogen energy is one of the key paths for the transformation of the global energy structure in the clean and low-carbon direction. Sinopec Engineering Incorporation, a member company of the Group, planned and implemented a number of hydrogen production projects based on solar power, wind power and electric power in Ordos, Ulanqab, Dalian, obtained technical reserves in hydrogen production, hydrogen storage, hydrogen refueling stations and other fields, and participated in the engineering technology development and design of three hydrogen refueling stations that would serve the Winter Olympics, with a daily supply of 4000kg of hydrogen, including 1500kg per day at 35MPa and 2500kg per day at 70MPa, which is the first of its kind in China. At the same time, it participated in the formulation of a number of hydrogen energy-related standards, greatly promoting the construction of Sinopec Group's hydrogen energy industry chain and contributed to the high-quality development of China's hydrogen energy industry.

The Xinjiang Kuqa Green Hydrogen Demonstration Project designed by Guangzhou Engineering Co., Ltd., a member company of the Group, is the world's largest photovoltaic green hydrogen production project under construction, China's first large-scale project of hydrogen production directly by photovoltaic power generation and the first typical demonstration project of Sinopec Group that runs through the whole process of green hydrogen production and utilization, including solar power generation, green electricity transmission, green electricity hydrogen production, hydrogen storage, hydrogen transportation, green hydrogen refining, etc. The project reduces carbon dioxide emissions by 485,000 tons per year, which has effectively promoted the development of green hydrogen energy in Xinjiang.

Shanghai Engineering Co., Ltd., a member company of the Group, continues to make investment and actively seeks technical cooperation, focusing on the development of large-scale hydrogen production technology from electrolyzed water coupled with renewable energy. So far, it has completed the development of key equipment, safety control and other engineering technologies and worked out a distinctive green hydrogen solution, thus laying a solid foundation for undertaking engineering projects in the field of green hydrogen.



LNG

LNG (liquefied natural gas) is a kind of clean and efficient energy, and an important energy product for optimizing the energy consumption structure. The Group adheres to the technology-led philosophy, possessing a series of patents and proprietary technologies in the field of LNG construction. While continuously improving its project construction ability, the Group is committed to contributing more clean energy to the society. During the reporting period, a series of projects represented by Tianjin LNG were completed and put into use, lending strong support to the winter supply in North China.

During the reporting period, the Group undertook and built a number of LNG receiving stations and storage tank projects including Wenzhou LNG, Tianjin LNG (Phase II), and Shandong LNG (Phase II and Phase III). Among them, Shandong LNG (Phase III) project, led by Sinopec Engineering Incorporation, a member company of the Group, has a storage tank capacity of 270,000 cubic meters, which is currently the largest LNG storage tank designed and built in China and the first large-volume low-temperature storage tank in China.

Green Enterprise Initiative

The Group has actively carried out the "Green Enterprise Initiative", fully implementing the concept of green development, and promoting energy conservation and emission reduction. Regarding the cultivation of green enterprises as one of its key tasks of the year, the Group has defined the annual key objectives and tasks of the Green Enterprise Initiative, finding its weak points; carrying out green enterprise cultivation training to improve the professional quality of environmental professionals; and building green construction sites and organizing personnel for acceptance inspection of. During the reporting period, a total of 8 member enterprises were awarded the title of "Green Enterprises".

Starting with the establishment of green construction sites, the Group has continued to carry out the prevention and control of solid waste, air pollution, water pollution and noise pollution and radioactive pollution. Green construction sites are subject to three levels of management and control, i.e., monthly self-assessment, assessment by member enterprises, and random inspection by the Company for verifying the assessment results. The establishment of green construction sites has progressed steadily, and various environmental protection work has effectively been implemented. During the reporting period, the Group established a total of 72 green construction sites.

Goal of the Green Enterprise Initiative



- Content
- ◆ Six 100%: 100% enclosure around the construction site, 100% coverage of bare soil and material stack, 100% washing of vehicles in and out, 100% hardening of roads on construction site, 100% wet process for earth-rock excavation and 100% airtight transportation of slag cars;
 - ◆ Reduced discharge of solid wastes: 100% compliance disposal rate of general solid wastes and hazardous wastes;
 - ◆ Compliance treatment or standardized discharge of production and domestic wastewater;
 - ◆ Build green and digital factories to reach the domestic first-class environmental protection level in the petrochemical engineering industry and build an environmental protection benchmarking enterprise of SINOPEC.

Case | Establish green construction site

Sinopec Fifth Construction Co., Ltd., a member company of the Group, has persisted in green production, accumulated experience in green construction, conducted environmental planning of early projects, duly identified and eliminated potential safety hazards in project processes, and intensified sewage treatment, to ensure that construction wastewater discharge is up to standards. The company has provided green services, intensified solid waste and construction waste disposal, and inspected the separate collection, marking, transport and disposal of common solid waster, hazardous waste, construction waste and domestic waste, to ensure that waste is disposed in accordance with laws and regulations. The company has fostered a green culture, integrated green culture building into corporate culture building, and fully leveraged its medium to spread the philosophy of green development throughout the company.



New energy sprinkling & de-dusting vehicle



Green soiless construction

Practices Related to Energy Conservation and Emission Reduction

Emission management

The Group strictly abides by China's national and local laws and regulations such as the Law of the People's Republic of China on Environmental Protection, the Law of the People's Republic of China on Prevention of Air Pollution, the Law of the People's Republic of China on Prevention of Water Pollution, the Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste, the Law of the People's Republic of China on Prevention of Environmental Noise Pollution as well as other environmental laws and regulations of countries where the project is located, such as the General Environmental Law and Environmental Protection Standards issued by the Kingdom of Saudi Arabia.

During the reporting period, the Environmental Protection Management Guide for Prefabrication Yard of Sinopec Engineering Group (Trial) and the Environmental Protection Management Guide for Solid Waste of Sinopec Engineering Group (Trial) were issued to guide the construction project sites to carry out the work concerning dust and solid waste discharge according to laws and regulations.

During the reporting period, no major lawsuits were filed against the Group due to environmental violations and no penalties imposed.

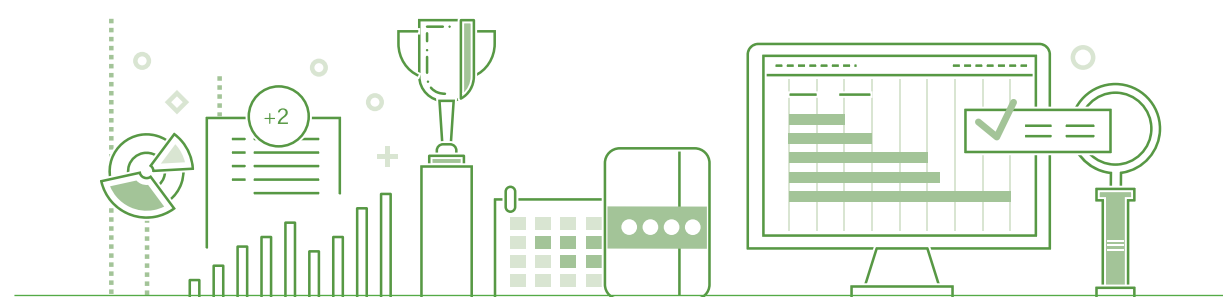
Goal of waste emission reduction	Goal of outsourced disposal of hazardous waste	Goal of greenhouse gas emission reduction
During the "14 th Five-Year Plan" period, the discharge amount of harmless wastes with revenue of RMB 100 million was reduced by 11%.	During the "14 th Five-Year Plan" period, the outsourced disposal of hazardous wastes with revenue of RMB 100 million decreased by 8%.	During the "14 th Five-Year Plan" period, the intensity of greenhouse gas emission reduction decreased by 5.7%.
↓ 11%	↓ 8%	↓ 5.7%

Type of emission	Emission reduction measures
 Wastes	Take solid waste management as the focus of the daily work of environmental supervision, strengthen the effectiveness of corrective measures and establish a long-term management and control mechanism to avoid the re-occurrence of similar problems, aiming at the outstanding problems such as open storage of hazardous wastes, mixed storage of solid wastes and hazardous wastes, random disposal of construction wastes, incomplete and nonstandard ledgers, and non-standardized labeling.
 Air pollutants	Strengthen the management of dust prevention and control at the project site, purify and discharge VOCs and welding fume and adopt low VOCs coatings for open-air painting; In order to ensure the air quality during the Winter Olympics, safeguard measures were formulated for projects in key areas, and safeguard measures and emergency plans were implemented in strict accordance with different periods and zones.
 Waste water	All waste water from chemical cleaning and other operations at the project site was recovered and disposed of according to law, and the sewage from construction projects was discharged in a unified manner according to the location and manner specified by the proprietor.
 Noise	Make reasonable layout of the construction site and reasonable arrangement of operation time; Adopt low-noise and environment-friendly construction machines and tools, and take effective measures to reduce the noise in the construction process. Units involved in noise at the factory boundary should carry out noise monitoring as required to ensure that the noise at the factory boundary meets the standards.
 Radioactive pollution	Implement the radiation safety license filing system according to the requirements of the state, strengthen the management of storage and use, and strictly manage the whole process of radioactive wastes so as to ensure that no environmental emergencies of radioactive pollution occur.

The general information of emission by the Group in the Reporting Period is listed as follows:

Type of Emission	Unit	2021	2020	2019
Total volume of greenhouse gas emission ¹	Ton of CO ₂ e	111,873.76	115,798.39	179,010.08
Range I total volume of greenhouse gas emission	Ton of CO ₂ e	46,848.89	52,728.27	116,439.97
Range II total volume of greenhouse gas emission	Ton of CO ₂ e	65,024.87	63,070.12	62,570.11
Greenhouse gas emission per unit of revenue	Ton of CO ₂ e/RMB Hundred Million	193.69	221.19	342.53
Output of hazardous wastes ²	Ton	982.64	879.10	1,336.62
Emission density of hazardous wastes ³	Ton/RMB Hundred Million	1.70	1.68	2.56
Treatment rate of hazardous wastes	%	100	100	100
Output of harmless wastes ⁴	Ton	51,314.78	62,267.67	64,405.38
Emission density of harmless wastes ³	Ton/RMB Hundred Million	88.84	118.94	123.24
Emission density of harmless wastes	%	100	100	100
Total volume of wastewater ⁵	Ton	2,504,743.07	4,338,861.09	3,387,082.81
Density of wastewater ³	Ton/RMB Hundred Million	4,336.47	8,287.70	6,481.09

Note: 1. Greenhouse gas emissions are calculated according to the Greenhouse Gas Accounting System-Accounting and Reporting Standards for Enterprises issued by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), the Fifth Assessment Report 2013 of the Intergovernmental Panel on Climate Change (IPCC) and the Guidelines for Accounting Approaches and Reporting of Greenhouse Gas Emissions for Industrial Enterprises and Enterprises of Other Industries (Trial); 2. the amount of hazardous wastes produced is calculated according to the statistical ledger of the production system of the Group; 3.density data is calculated by using the method of dividing revenue by production. 4. harmless wastes are mainly waste paper, scrap metal, wastes from temporary demolition and domestic garbage, of which the total discharge of domestic garbage is calculated according to 0.8kg/person/day, and the rest harmless wastes are proportionally converted according to the actual situation; during the reporting period, we reasonably planned the reuse of excavated earth in the project, effectively reducing the amount of residue.5.during the reporting period, the company strengthened the management of pressure test water during project implementation, effectively reducing the discharge of sewage.



Case | Clean technologies assist pollutant emission reduction from the source

A series of advanced technologies of Sinopec Engineering Incorporation, a member company of the Group, represented by S Zorb (FCC Gasoline Adsorbing Desulfurization) technology and high-efficiency and environment-friendly Paraxylene complete-set technology have achieved clean process, pollutant emission reduction and environmental friendliness from the source, providing a solid guarantee for the whole petrochemical industry chain to realize the green and environmental protection goal. At present, the total processing capacity of S Zorb units built in China exceeds 52.3 million tons per year. According to calculation, this technology helps reduce SO₂ emissions by more than 30,000 tons and CO₂ emissions by about 2.1 million tons every year. The second set of green Paraxylene technology has been successfully applied at Hainan Refining and Chemical Co., Ltd. in China and exported to Saudi Arabia, Indonesia, Belarus and other countries. At the same time, the third set of high-efficiency green aromatic hydrocarbon technology has been constructed at Jiujiang Petrochemical Co., Ltd. It is reported that a single set of unit can reduce the solid waste discharge by about 2,000 tons per year.

Case | Continue to innovate in the technology of "zero discharge" of sewage to protect the environment

- ◆ The Fischer-Tropsch synthesis reaction process of the indirect coal liquefaction project produces a large amount of synthetic water with complex components which is difficult to treat. The resource utilization of synthetic water has become one of the main bottlenecks restricting the development of indirect coal liquefaction technology. Sinopec Engineering Incorporation, a member company of the Group, after undertaking the national key R&D plan, has developed the technological route of "vaporization membrane separation and concentration + separation of the wall tower and extractive distillation + acid-resistant biotransformation + biochemical coupling treatment", which has been verified by field pilot test and is expected to help realize "zero discharge" of sewage.
- ◆ Waste alkali oxidation is the key link of sewage treatment. This technology has long been monopolized by foreign countries, becoming one of the "bottleneck" technologies in China's environmental field. Sinopec Engineering Incorporation, a member company of the Group, took the lead in carrying out independent research and development and finally achieved major breakthroughs and completed the engineering process, breaking the monopoly of foreign patent dealers in large-scale non-biological waste alkali oxidation process and realizing the localization and industrialization of equipment for the first time.
- ◆ The effective treatment and resource utilization of waste lye discharged from ethylene production process is a research hotspot in the field of sewage treatment. Sinopec Engineering Incorporation, a member company of the Group, and fraternal companies have worked together to tackle key problems, and independently developed the technology package of freezing and crystallizing ethylene waste lye. This technology with independent intellectual property rights is expected to help realize resource recovery and zero emission of ethylene waste lye.
- ◆ Zhong'an coal chemical integration project is located on the bank of Huaihe River, and its environmental standard is extremely strict. The commissioning of its saline sewage treatment device has become the key link affecting the normal start-up and operation of the whole plant. Sinopec Engineering Incorporation, a member company of the Group, took the lead in carrying out innovative research and development of the "complete set of processes and technologies for zero discharge of high-content salt water in Sinopec Group's coal chemical sector", which solved the problem of zero discharge treatment of high-content salt water and utilization of salt water resources for the first time in China. The complete set of technologies have been successfully applied in Zhong'an joint coal chemical engineering project, and a 360-ton-per-hour high-content salt waste-water zero-discharge device has been built. The device has successfully achieved the overall sewage l recovery rate of about 98%, the total quality salt and nitrate recovery rate of about 80%, and the annual direct and indirect benefits have reached RMB 97 million. This technology has filled in the blank in China in the field of the complete-set technology of zero discharge of high-content salt sewage based on quality separation and salt separation.



Fischer-Tropsch synthesis water-alcohol separation tower



Zhong'an zero discharge of high-content salt water project

Case | The ultra-low emission green solution of petrochemical wastewater won the Sino-French Teamwork Innovation Award

Guangzhou Engineering Co., Ltd., a member company of the Group, worked with France-based Suez Environment and Shenghong Group to develop a green solution for ultra-low emission of petrochemical wastewater. The solution adopted the concept of "treating waste with waste" to achieve recycling, energy conservation and emission reduction, fully demonstrating the concept of resource utilization and environmental protection and biodiversity through technological innovation. It will provide clients with an economical and reliable solution for the whole process of ultra-low emission of petrochemical wastewater. The wastewater reuse rate has been the highest of existing petrochemical projects in China. After the project is put into operation, it is estimated that the annual carbon dioxide emission will be reduced by 8,000 tons, and the operating cost saved by RMB 20 million. With its outstanding performance in energy conservation and emission reduction, this solution won the "Innovation Pioneering Award" issued by the French-Chinese Commission in 2021.



Case | Committed to technical development in the field of new materials with a view to building a brand of degradable materials

Focusing on the field of new materials, the Group has made breakthroughs in the large scale and full localization of degradable materials, and built a distinctive brand of degradable materials through continuous development of various kinds of production technologies, as well as technical extension and layout in both upstream and downstream industrial chains.

Shanghai Engineering Co., Ltd., a member company of the Group, integrated the technology of making ethylene glycol from coal with independent intellectual property rights and the co-developed polyglycolic acid technology, and undertook the engineering business of Hubei's chemical fertilizer PGA (polyglycolic acid, a degradable material with unique properties) project and Guizhou's Nenghua PGA project, and synthesized high value-added degradable engineering plastics based on coal, promoting the technical development and industrial demonstration of clean and efficient use of coal for making high value-added products, and the development and application of degradable plastics. The engineering design of Tianjin Petrochemical's 100,000-ton/year PBST (biodegradable polyester material) project and Hainan Refining & Chemical's 60,000-ton/year PBST project has opened up the market of biodegradable materials while improving the application level of the production technology of biodegradable materials.

Case | Phosphogypsum treatment technology realizes "treating waste with waste"

With the rapid development of China's phosphorus chemical industry, the quantity of by-product phosphogypsum has become enormous, which has caused an increasingly adverse impact on the environment. CO₂ emission reduction and phosphogypsum solid waste treatment are major environmental problems, posing a severe challenge to the industrial economy, especially the energy industry.

Nanjing Engineering Co., Ltd., a member company of the Group, developed the technology of directly mineralizing phosphogypsum with low concentration of CO₂ to produce ammonium sulfate and calcium carbonate, and directly mineralized CO₂ from tail gas into solid waste phosphogypsum, calcium carbonate and ammonium sulfate as by-products. At the same time, it has solved the environmental problems of CO₂ emission and phosphogypsum solid waste, realizing the technical route of "treating waste with waste" and circular economy, which is conducive to the reduction and resource utilization of by-product phosphogypsum, and is of practical significance to the sustainable and healthy development of phosphorus chemical industry.



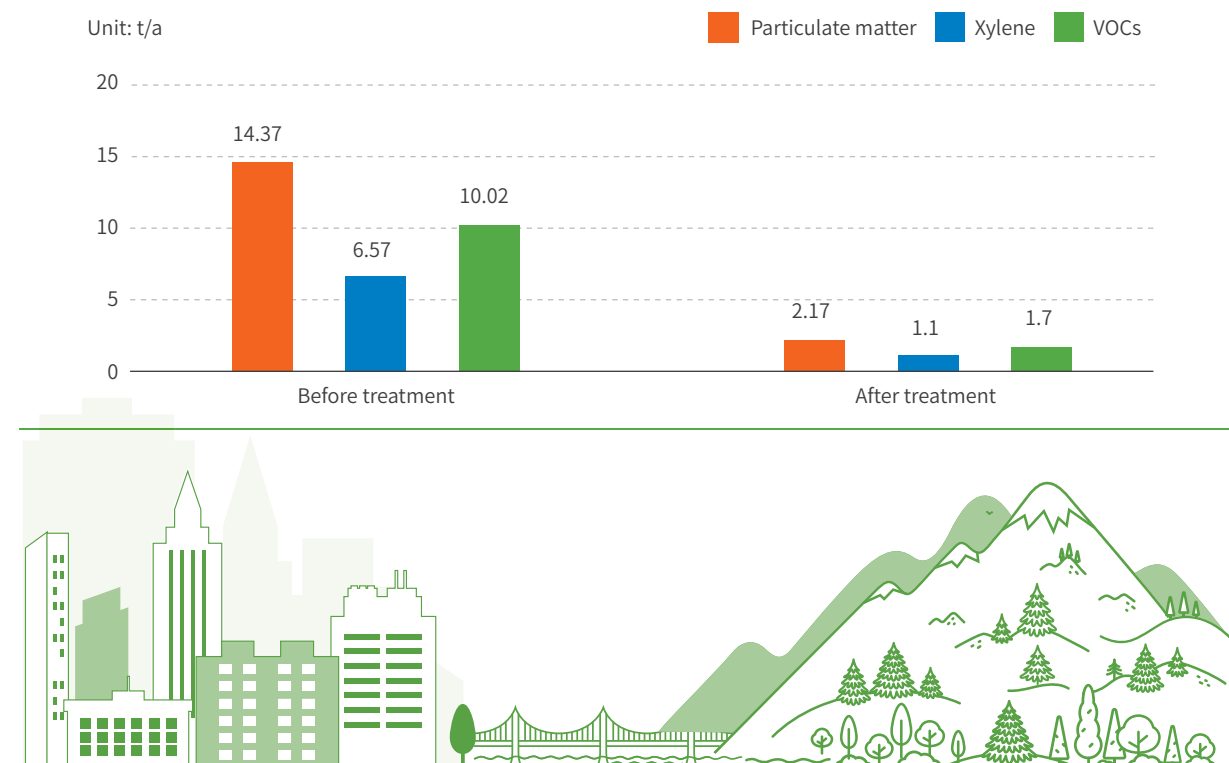
Case | Complete-set VOCs treatment technology with high flux and low temperature plasma has been applied industrially

VOCs (Volatile Organic Compounds) are the key and a difficult problem of waste gas treatment in petrochemical industry. Guangzhou Engineering Co., Ltd. a member company of the Group, participated in the research and development of the complete-set high-flux plasma VOCs treatment technology which was first applied to the treatment of organic waste gas in Jingmen Petrochemical Wastewater Treatment Yard. The size of waste gas treatment reached 12,000 Nm³/h, which significantly improved the treatment efficiency of low-temperature plasma VOCs treatment technology. After three months of stable operation, the emission of VOCs waste gas met the standard, which effectively solved the problem of large-flux and low-concentration VOCs treatment, becoming a "sharp weapon" for efficiently completing the task of low-concentration VOCs treatment and improving the quality of atmospheric environment.



Case | Implement the factory manufacturing concept to reduce pollutant emissions

Sinopec Fourth Construction Co., Ltd., a member company of the Group, is a firm believer in the concept of factory manufacturing. Through the investigation at the prefabricated sites of the projects around the Beijing-Tianjin-Hebei region, it has built a centralized manufacturing base and equipped it with environmental treatment devices to ensure that the emission meets the standards, effectively solving the problem of environmental pollution caused by open-air welding and spraying. Since the factory manufacturing base resumed production in February 2020, it has undertaken the shot blasting anticorrosion construction of many large-scale projects such as pipeline, section bar, plate, pipe fittings, etc. After the pollution control facilities are put into operation, the emissions of pollutants such as particulate matter, xylene and VOCs have all been reduced to varying degrees.



Use of resources

The Group took the initiative to implement the Law of the People's Republic of China on Conserving Energy, Law of the People's Republic of China on Promoting Clean Production, Ordinance on Civil-Building Energy Conservation and relevant policies on energy conservation to exploit the advantages of the Group's whole industrial chain in engineering construction. In the planning, design, consultation, construction and commissioning services for petrochemical engineering, the Group promoted the research, development and application of new energy, new technology and new equipment and was dedicated to building green projects and green factories to realise energy conservation and cost reduction. Meanwhile, the Group actively optimised the energy consumption structure, eliminated the use of coal-fired boilers, and promoted clean and efficient gas-fired boilers, thus improving the energy consumption efficiency and reducing the waste of water resources.

Energy conservation goal	Water conservation goal
Improve the efficiency of use of resources, and reduce the consumption of major energy resources through the research & development and application of new energy, new technologies and new equipment.	Improve the efficiency of use of water, and reduce the per-capita consumption of water resources.



Fourth Construction Co., Ltd. launching the Initiative of "Giving Priority to Saving in Green Development"



Sinopec Engineering Incorporation carrying out low-temperature heat investigation and implementing the overall plan at Yanshan Chemical Plant

During the reporting period, the Group's resource consumption performance was listed as follows:

Resource Type ¹	Unit	2021	2020	2019
Diesel	Ton	9,425.57	10,566.18	20,737.24
Gasoline	Ton	3,337.56	3,032.37	7,118.00
Natural gas	M ³	455,314.89	325,463.98	499,126.44
Liquefied petroleum gas	Ton	337.42	1,711.38	5,681.15
Acetylene	Ton	2,473.22	1,423.87	3,250.89
Propane	Ton	304.00	132.35	77.41
Net purchased electricity	MWh	95,247.97	92,107.93	95,976.68
Net purchased heat or steam	MKJ	63,833.22	63,830.09	26,768.75
Integrated energy consumption	Ton of standard coal	51,006.33	47,360.45	87,727.35
Integrated energy consumption per unit of revenue	Ton of standard coal/ RMB Hundred Million	88.31	90.46	167.86
Total consumption of water resources	Ton	6,226,047.49	5,129,561.71	3,827,827.58
Intensity of water resources consumption	Ton/RMB Hundred Million	10,779.17	9,798.03	7,324.44

Note: 1. Factors such as the location of the project department, prefabrication yard and manufacturing plant, market supply and project increase or decrease will lead to changes in energy consumption. During the reporting period, the company contracted and completed several tank farm projects, which increased gas consumption; the comprehensive energy consumption data in the table were calculated based on the General Rule for Calculation of Comprehensive Energy Consumption; density- related data in the table were calculated by the consumption divided by the operating revenue; engineering projects the Group delivered to clients did not involve the use of packaging materials.



Green design

- ◆ Promote the green design concept, tap the resource recycling potential from the whole process flow in the design stage of the construction project, adopt new process, new technology and new equipment based on the principle of "the optimal energy consumption", realize the waste heat recovery and the cascaded utilization of residual pressure, maximize the utilization rate of resources and energy, and reduce the consumption of water, electricity and other resources;
- ◆ Carry out technical transformation of old devices to improve the energy-saving and consumption-reducing capacity of in-service devices;
- ◆ Select environment-friendly and efficient catalysts to improve the efficiency of reaction;
- ◆ Design supporting solid waste reduction devices and waste water and waste gas treatment devices to reduce the discharge of "three wastes" from the source;
- ◆ Promote the engineering application of the complete-set zero emission technology of waste water and significantly reduce the consumption of fresh water;
- ◆ Utilize renewable resources to develop and optimize the industrialized production technology of fuel ethanol to reduce production costs and improve competitiveness and economical efficiency.



Green construction

- ◆ Establish a sound management mechanism of energy resources at the construction site, and standardize the use quantity of materials and the scope of transportation to save resources;
- ◆ Implement recycling, such as unpolluted industrial waste water;
- ◆ Repair the old and utilize the waste, reduce trans-shipment, and reuse the temporary facilities on the construction site, such as material warehouses, tool boxes and board rooms;
- ◆ Effectively dispose of recyclable materials, such as scrap metal, wood, plastic, cardboard, etc.;
- ◆ Give priority to energy-saving, efficient and environment-friendly construction facilities and machines recommended by the state and industry;
- ◆ Eliminate backward facilities and equipment on schedule, and maintain energy-consuming equipment and machines in time;
- ◆ Call on subcontractors to participate in the "Four-Saving" activity, i.e., saving energy, saving water, saving materials and saving land.



Green office

- ◆ Use water-saving appliances to avoid unnecessary waste;
- ◆ Turn off the lights and computers before leaving, and set the air conditioning temperature properly;
- ◆ Recycle the cooling capacity and heat of air conditioning in office areas;
- ◆ Carry out energy-saving renovation of lighting fixtures in office areas;
- ◆ Promote the application of OA system;
- ◆ Promote the application of teleconferencing system;
- ◆ Advocate the use of durable goods and double-sided printing, and minimize the purchase of disposable products.



Green life

- ◆ Advocate green travel, standardize bus management, and advocate the concept of the multi-use of one vehicle;
- ◆ Advocate the "Plate-clearing Campaign" to save food resources;
- ◆ Carry out voluntary tree-planting activities to strengthen employees' eco-environmental awareness of "planting trees, protecting trees and loving a green life";
- ◆ Cultivate green culture, carry out green theme learning activities, hold environment-related quizzes, and publicize energy conservation and carbon reduction through banners to reduce carbon emissions.

Case | Carry out energy utilization analysis and improve the efficiency of resource utilization

The Group is dedicated to doing a good job in energy utilization analysis, optimizing process schemes and serving enterprises in saving energy and water. During the reporting period, Shanghai Engineering Co., Ltd., a member company of the Group, completed the low-temperature waste heat utilization project of the new ethylene oxide unit of Maoming Petrochemical, which reduced the energy consumption by 37.8kg standard oil per hour for the new ethylene oxide unit and 1039.5kg standard oil per hour for the Water Affairs Department, with a total reduction of 1,077.3 standard oil per hour; the energy-saving scheme of Shanghai Petrochemical Plant was completed and implemented in two phases. In Phase I, the steam consumption was saved by 121,100 tons per year by systematically taking into consideration the design of utilization of low-temperature heat, and the maximum heat recovery efficiency of low-temperature heat in the aromatic hydrocarbon unit was realized. In Phase II, It is expected that 48.8MW of low-temperature heat can be recovered.



reduced the energy consumption by standard oil per hour for the new epoxy unit

37.8kg



reduced standard oil per hour for the Water Affairs Department

1039.5kg



the steam consumption was saved by

121,100 tons per year



of low-temperature heat can be recovered in phase II

48.8MW

Case | Build a rooftop distributed PV power station to achieve both economic and environmental benefits

The rooftop distributed PV power station built by Ningbo Engineering Co., Ltd., a member company of the Group, converts the direct current generated by PV cells into alternating current with high power quality, low harmonics and in line with the national grid-connected standards through inverters, and gives priority to the use of clean power through the switch control cabinet, while the surplus power is sold to the State Grid as its income. After the completion of the power station, it is expected that it can supply 7,895,900 kWh of electricity to the power grid every year, which, compared with the thermal power with the same power generation capacity, is equivalent to saving 2,526.67 tons of standard coal every year, while reducing the emissions of various air pollutants every year, including about 6,619.89 tons of carbon dioxide, 21.48 tons of sulfide and 18.70 tons of nitrogen oxides.

it is expected that it can supply of electricity to the power grid every year



7,895,900 kWh

saving of standard coal every year



2,526.67 tons

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6,619.89 tons



of sulfide

21.48 tons



of nitrogen oxides

18.70 tons

Bio-diversity Protection

The Group strictly abides by the Environmental Protection Law of the People's Republic of China and relevant environmental laws and regulations of the operation place of the project, actively performs its environmental responsibilities at home and abroad, strictly adheres to the ecological red line and the environmental safety bottom line, takes into full consideration the possible impacts on biodiversity and natural resources during the project construction process, takes effective measures to implement ecological protection and soil and water conservation, and strengthens vegetation protection and restoration so as to minimize the impacts on the project operation place. At the same time, the Group also makes great efforts to innovate ecological restoration technology and promote soil restoration and biodiversity protection to make its due contributions to global ecological governance.

- ◆ Carry out the identification of environmental factors and impact assessment. Strictly abide by the national ecological red line system, the policy of intensive and economical use of land and marine functional zoning, identify environmental factors and evaluate the impact of construction areas, office areas and other activity areas, and ensure that the conclusion of the assessment of environmental impact is correct and reasonable.
- ◆ Minimize the impact of the project on the environment. During construction, priority is given to wasteland and inferior land to improve the efficiency of land use without occupying the farmland and affecting community crowds and wildlife habitats. Attention is paid to prevent the leakage of glare, fuel and mud. Efforts are made to strengthen environmental protection and ecological restoration during pipeline construction.
- ◆ Restore the damaged ecosystem. For the environmental damage caused during construction, the Group restored it to its original state after construction, including vegetation restoration, soil and water conservation, etc.
- ◆ Wildlife protection. During the construction period, it is strictly prohibited to destroy animal nests, hunt, feed and intentionally harass wild animals. Trapped wild animals must be rescued in time.
- ◆ Strengthen the research & development of soil and groundwater remediation technology and its reserve. The Group has actively promoted the development and reserve of soil remediation technology and formed a complete site technology system, including bioremediation and phytoremediation, so as to advocate the application of NBS (nature-based solution) and promote the construction of "clear water, blue sky and pure land".

Case | Build a "technical experience pool" for soil remediation to remediate polyether-contaminated soil for Tianjin Petrochemical Co., Ltd.

In order to strengthen the technical reserve of soil and groundwater remediation, Sinopec Fifth Construction Co., Ltd., a member company of the Group, set up a technical research team, selected the demonstration project to train technical talents, and built a "technical experience pool" to promote the solution of bottlenecks in the project implementation process. At the same time, relying on its engineering projects, the company set up an on-site pilot scientific research base, carried out technical R&D cooperation, and steadily advanced a number of scientific research topics. Through the implementation of the project, the company successfully promoted the application of the technology, establish the technical system of soil remediation, promote the construction of the standardization system of petrochemical sites and improve the technical capabilities of soil remediation.

Tianjin Petrochemical Polyether Site Remediation Project is the first independent remediation site of Sinopec Group. In the process of remediation, Sinopec Fifth Construction Co., Ltd. established a screening database of remediation technologies for organic pollution at the petrochemical site, optimized pollutant identification and classification control, accurately coupled remediation technologies, and established an intelligent management platform to realize online monitoring, remote control and result judgment, which has greatly improved the treatment rate and effect. During the reporting period, 920,000 cubic meters of soil and 140,000 square meters of groundwater were successfully restored. Thanks to the efforts of the company, the local ecosystem has been restored, and bioremediation and phytoremediation realized. In addition, five patents have been applied and three group standards compiled.



The relocation project of Jingzhou Oil Depot of Hubei Petroleum Branch, which was contracted by Guangzhou Engineering Co., Ltd., achieved high-standard mid-term delivery, contributing to the implementation of the Yangtze River Protection Strategy.



Tenth Construction Co., Ltd. formulated a special hydraulic conservation plan during the construction of the natural gas main pipe network project in western Guangdong

Address Climate Change

Addressing climate change has become a global consensus. Under this context, the Chinese government has put forward the climate action goal of "carbon peaking and carbon neutrality". As an important engineering service provider and technology patent holder in the petrochemical industry, the Group attaches great importance to climate change and actively responds to the issue. At the same time, the Group fully responded to the Declaration of China's Petroleum and Chemical Industry on Carbon Peaking and Carbon Neutrality issued by Sinopec Group, actively promotes the development of energy structure in the clean and low-carbon direction.

Climate change governance

The Board of Directors of the Group is responsible for supervising and managing climate-related issues and work, and the ESG Committee is responsible for determining climate-related issues, making suggestions to the Board of Directors, and supervising the implementation of the Group's climate change response plan.

Risks and opportunities brought by climate change

The Group regularly identifies and evaluates climate risks and opportunities. The possible risks brought by climate change include the risks of tightening carbon emission policies, the risks of rising supplier costs, the possible damage to production equipment caused by extreme weather events and major natural disasters, and the risks of affecting employees' safe production and normal business order. Climate change also provides vast market opportunities for the Company's development. The Group is committed to promoting scientific and technological innovation, providing high-end think tank support for the green, clean and efficient development of the industry, and helping refining and chemical enterprises to enhance their green and low-carbon competitiveness.

Climate change response

The Group also attaches importance to the research & development and utilization of low-carbon technologies and actively cooperates with research institutes at home and abroad. During the construction of the project, the Group also took into full consideration the impact of regional climate risks on the project implementation and by establishing a sound emergency response mechanism, improved its emergency response capability in the face of climate disasters, minimized the impact of climate change on the project construction, and boosted its ability to adapt to climate change.

◆ Carry out "Carbon Peaking and Neutrality" research

The Group actively carries out "Carbon Peaking and Neutrality"-related research, and has made great progress in standards formulation, realization of "double carbon" path.

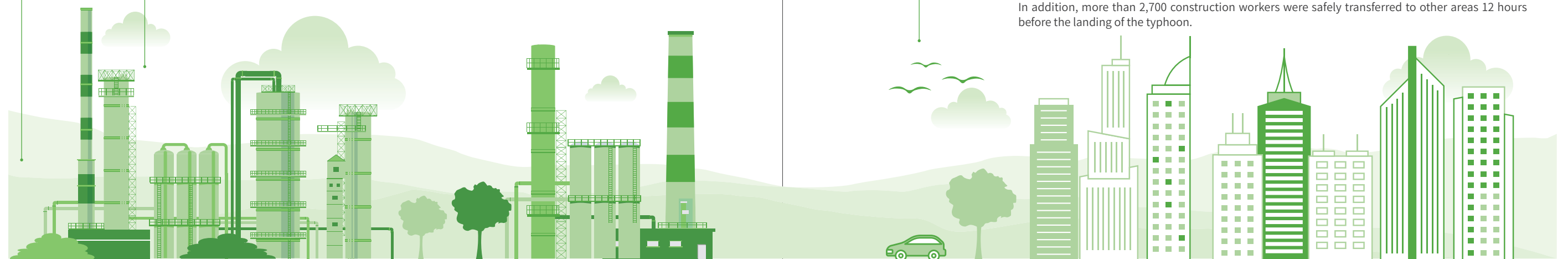
The construction engineering company, a member company of the Group, fully relying on the Joint R&D Center of Green Technology of Carbon Neutrality jointly established with the Institute of Process Engineering of the Chinese Academy of Sciences and Yanshan Petrochemical Co., Ltd., gave full play to its own experience and advantages in engineering technology innovation and engineering transformation so as to advance the construction of the carbon neutrality industrial demonstration park and jointly promote the low-carbon development of petrochemical industry.

SINOPEC Energy Conservation Technology Service Co., Ltd. has formed five national standards for water intake quota, led the formulation of local standards, participated in the formulation of group standards for the Evaluation and Certification of Carbon Neutrality Natural Gas and in the revision of national standards for mandatory energy consumption; carried out the research on evaluation technical specifications of green factories in Hainan Province, and jointly promote the professional and high-quality development of green environmental protection industry and petrochemical industry in Hainan by relying on the opportunity of building the Hainan Free Trade Port; undertook special research projects on exploring the paths towards the goal of carbon peaking and carbon neutrality, and provide data base and technical support for realizing the goal of carbon peaking and carbon neutrality in chemical industry; strengthened research in the field of carbon market and carbon trading, and further improved the research level in the field of carbon asset management.

◆ Respond to extreme weather

The Group plans to take climate change into consideration as an issue concerning its own operational risks, actively responding to the impact of extreme weather such as rainstorms and typhoons on its operations.

In July, 2021, a typhoon called "Fireworks" landed in the coastal area of Zhoushan, Zhejiang Province. Due to the continuous heavy rainfall and windy weather in the project construction site of Sinopec Tenth Construction Co., Ltd., a member company of the Group, the Engineering Project Department made deployment in advance, immediately started the typhoon prevention emergency plan, reinforced the project office area, the pipeline processing plant, and the material supply warehouse and other areas, conducted comprehensive and three-dimensional safety inspection in the construction area, and investigated the potential risks of temporary electricity use and construction machines and tools, building a safety control line for the construction of the project. In addition, more than 2,700 construction workers were safely transferred to other areas 12 hours before the landing of the typhoon.



In the operation process, the Group actively responds to the needs of society and the expectations of people, puts itself in the shoes of employees, and works with partners so as to realize the sharing of resources between the enterprise and society as well as the common development of the industry and society.

SDGs topics that this chapter responds to



03 Society

- 50 Care for Employees' Growth
- 63 Stable and Safe Operation
- 68 Partner with Responsible Partners
- 72 Improve Product Services
- 77 Adhere to Innovation-based Development
- 80 Serve the Communities Wholeheartedly

Care for Employees' Growth

Employees are the inexhaustible motive force for the development and progress of an enterprise. The Group regards employees as its important partners, adheres to the people-oriented principle, protects employees' basic rights and interests and improves the training system to promote their career development; improves the occupational health management system to ensure the physical and mental health of employees; cares for employees' lives and guides them to work and live happily.

Attach importance to human rights protection

The Group strictly abides by the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China, the Law of the People's Republic of China on the Protection of Minors, the Regulations on the Prohibition of Child Labor and other laws and regulations, and actively practices the national human rights action plan and international human rights conventions. At the same time, the Group also strictly abides by the relevant local laws and regulations, such as the Labor Law issued by the Kingdom of Saudi Arabia. The Group resolutely opposes any forms of illegal employment such as child labor and forced labor, and strictly prevents child labor, forced labor and other illegal employment, adhering to the principle of voluntary and equal employment. By signing formal labor contracts with employees, the Group fully protects employees' rights and interests in terms of recruitment, dismissal, promotion, working hours, vacation, salary and benefits, anti-discrimination, diversity and equal opportunities, and safeguards their rights to know, participate and supervise. At the same time, the Group also strives to build a healthy, harmonious, stable and win-win labor relationship with employees.

During the reporting period, no violations such as use of child labor and forced labor occurred in the Group, and no lawsuits were filed due to employment problems.

Build a diverse team

We pay attention to the diverse composition of employees, evaluate the qualifications of professionals from the aspects of compliance, work attitude, qualification, performance and ability, and ensure that all employees enjoy equal employment opportunities. We recruit talents through multiple channels, including campus recruitment, social recruitment and internal recommendation. We treat all candidates equally in the recruitment process, and do not look down on candidates because of their color, nationality, language, race, creed, or physical disability.

Overseas employees are an important part of the Group's workforce that provides a solid foundation for the Group's international development strategy. We care about the career development, business training, health and safety of foreign employees, constantly promote the internationalization of talents and localization of employment, respect local culture and strengthen cultural integration so as to stimulate the initiative of foreign employees, create value for the overseas business pattern of the Group and share the achievements with foreign employees. In international projects, we actively participate in local or third-country recruitment meetings to introduce foreign employees so as to promote the localization of overseas employment.

Case | Employee localization in Saudi Arabia

SEG Saudi Arabia has advanced employee localization to help Saudis get employed. It signed a training agreement with the National Construction Training Center of Saudi Arabia. On March 7, 2021, it started recruiting a total of 40 Saudi Arabian trainees for the first training session, including safety supervisors, electricians, instrument workers and plumbers.



recruiting a total of Saudi Arabian trainees for the first training session

40



Employment of the Group in 2021:

Name of indicator	Unit	2021
Total number of employees	/	16,973
By type of employment		
Full-time	/	16,973
Part-time	/	0
By gender		
Number of male employees	/	12,436
Number of female employees	/	4,537
By age		
Aged 30 and below	/	1,995
Aged 31-50	/	10,191
Aged 51 and above	/	4,787
By education		
With master's degree	/	2,987
With bachelor's degree	/	7,807
Junior college degree	/	2,849
Others	/	3,330
By region		
Domestics	/	16,428
Overseas	/	545

Employee loss rate of the Group in 2021:

Name of indicator	Unit	2021
Employee loss rate by gender	Male	%1.87
	Female	%1.34
Employee loss rate by age	Aged under 30	%7.87
	Aged 31-50	%1.30
	Aged 51 and above	%0.08
Employee loss rate by region	At home	%1.78
	Abroad	%0.00

Improve salary and welfare

Adhering to the salary distribution philosophy of "pay based on value, pay based on the post and pay based on performance", the Group implements a competitive salary distribution system in line with the market salary price mechanism. We have established a benefit-oriented salary mechanism, and formulated a medium- and long-term incentive plan for key employees. At the same time, we have set up a perfect performance appraisal mechanism, given full play to the leading role of appraisal and distribution, and implemented the work efficiency-based appraisal, linking the completion of various indicators with the total salaries, which has increased the incentive and binding of individual indicators, and helped encourage employees to share the value results together while creating benefits for the Company.

The Group has established a perfect employee welfare system, paying "five insurances and the housing provident fund" for employees according to law, adding supplementary benefits such as supplementary medical insurance, recuperation subsidy, heatstroke prevention and cooling fee for employees, and paying personal accident insurance for overseas employees. In addition, we respect employees'vacation rights, and safeguard employees'vacation rights such as statutory holidays, wedding and funeral leave, maternity leave, late-child leave, breastfeeding leave and paid leave. For minority employees, we respect their religious beliefs and customs, such as arranging a day off for Muslim employees on Eid al-Fitr.

In addition, committed to women's equal rights, the Group attaches great importance to safeguarding the legitimate rights and interests of female employees. The Company's Trade Union has established the Women Workers'Committee to ensure the implementation of the regulations on maternity leave and breastfeeding leave as well as the regular physical examination system for female employees, paying attention to their physical and mental health and career development while providing an ever-improving working environment and better conditions for female employees.

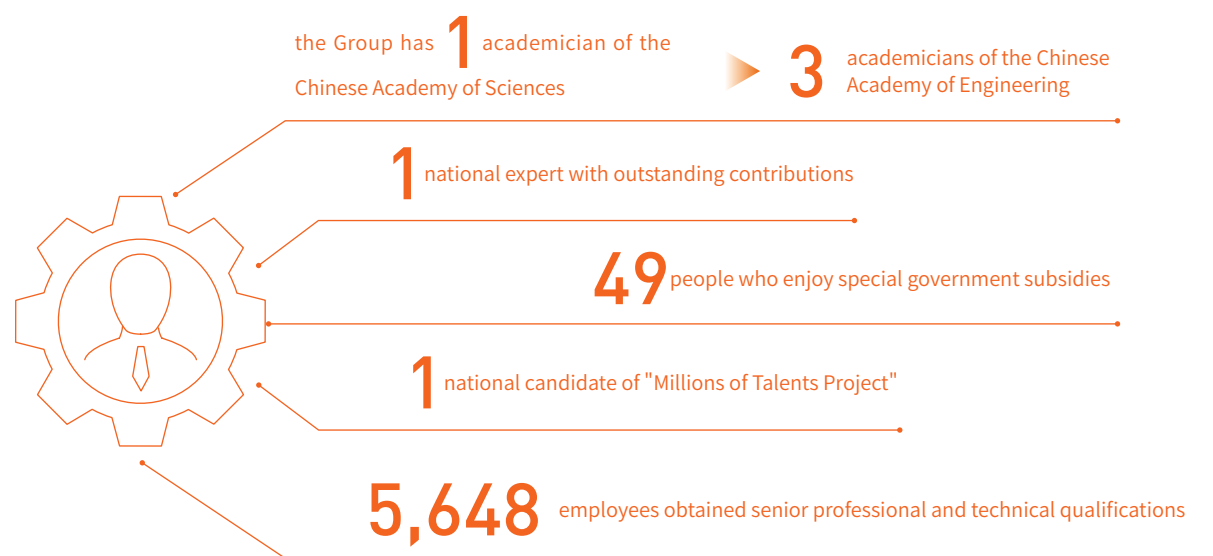
Help employees grow

The Group implement the strategy of "making the enterprise stronger with talents". While developing itself, the Group actively responds to the development needs of employees. By establishing a multi-level and comprehensive training management system, the Group has enriched training contents and innovated training methods, which has helped employees to constantly improve themselves, reserved knowledge and experience for employees'growth and development, and improved their comprehensive quality, thus realizing the common progress of employees and the enterprise as well as the long-term development goal of the Group.

Building of talent teams

The Group continuously strengthens the construction of high-quality professional talent teams and explores the way of establishing a working mechanism of "normal development, dynamic reserve, collaborative training and diversified use", forming five professional areas: scientific research and technology, professional management, emerging business, skill operation and international business. Through multi-level talent training, we help employees grow rapidly and broaden their career development space, thus realizing the integrated development of personal value and the Group.

During the reporting period, the Group has 1 academician of the Chinese Academy of Sciences, 3 academicians of the Chinese Academy of Engineering, 1 national expert with outstanding contributions, 49 people who enjoy special government subsidies, 1 national candidate of "Millions of Talents Project", 5,648 employees who have obtained senior professional and technical qualifications.



In the next step, the Group will carry out the strategy of "Talent-based Enterprises" and implement the medium and longterm talent development plan. We will conduct the "Talent Seedling Program" for young cadres, promote the multi-post exchange training of young cadres within and among different business units, provide broader opportunities for young cadres to experience, and comprehensively enhance the professionalism and overall management ability of cadres. We will launch the training programs of "Approaching Scientists" and "Towards Advanced Enterprises", adopt the method of "Exchanging Visits with Outside Resources", strengthen professional quality training, improve the comprehensive quality and ability of cadres and employees, and provide better human resources guarantee for corporate development.



Improve the system of selecting and employing people	◆ Compile and issue the <i>Regulations on the Management of Expert Database of Sinopec Engineering Group</i> and the <i>Regulations on the Management of Talent Training of Sinopec Engineering Group</i> so as to give full play to the supporting role of various experts, strengthen the source construction of young cadres, and cultivate talents with excellent quality and optimized structure.
Improve the talent standard evaluation system	◆ Publish the <i>Classification of Specialty in Technical Sequence of Sinopec Engineering Group</i> and the <i>Classification of Job in Skill Operation Sequence of Sinopec Engineering Group</i> , and based on the classification of specialty (job), complete the <i>Qualification Evaluation Standard of Talent Promotion Channel</i> for main specialties (jobs), standardize the requirements of knowledge, skills and abilities that the people at different positions should own, and provide standards for talent selection and training; ◆ In order to evaluate the international talent team, the <i>International Talent Evaluation Standard System</i> has been established by combining quantitative and qualitative methods, which includes three dimensions of ability evaluation indicators: basic quality, professional quality and management quality.
Open up the talent promotion channel	◆ Formulate the <i>Management Regulations of the Headquarters of Sinopec Engineering Group (Trial)</i> , optimize the conditions of talent selection, perfect the relevant systems and methods and channels for talent growth, form management systems featuring expert management, performance appraisal and talent growth, realize the cross promotion and horizontal penetration of talents among the three sequences, i.e., business management, professional technology and skill operation, and further broaden the space for employees'career development.
Promote the implementation of the staff rotation system	◆ Promote the implementation of the staff rotation system, expand employee's career horizons, and cultivate high-quality compound talents
Establish the "mentor-apprentice" talent training mechanism	◆ Accelerate the training of young talents, carry forward excellent styles, experience and techniques, and help employees grow into professionals.
Implement the mechanism of training talents through overseas projects	◆ Dispatch outstanding employees to carry out overseas construction projects, help them to become more familiar with international business processes, improve their cross-cultural communication ability, and realize the goal of training international talents proficient in technology and with certain abilities in business, foreign language and management.

Case | "The Power of Integration" Youth Practice Speech Contest

On July 21, Sinopec Engineering Group held the "Power of Integration" Youth Practice Speech Contest in Beijing. Nine youth representatives from the headquarters of the Company and its member units who had participated in the First "Three Hundred and Three Thousand" Program attended the colorful contest which went swimmingly in a warm and inspiring atmosphere. The nine contestants shared their experiences in different positions, showed the courage as petrochemical youths to overcome difficulties and grow robustly, and elaborated on the meaning of the "Power of Integration", showing that sharing weal and woe, all member units of Sinopec Engineering Group are working closely towards the same goal so as to create a more brilliant future for the Group with the majestic power of integration and cohesion.

The "Three Hundred and Three Thousand" Program is a program for training young cadres launched by Sinopec Group, aiming to promote the exchange and training of young cadres between enterprises and within enterprises, so that young cadres can obtain hands-on experience in tough positions, major projects and harsh environments, and develop their ability to shoulder heavy responsibilities. A total of 36 people were dispatched to participate in the First "Three Hundred and Three Thousand" Program and 16 people were received and trained.



Case | Theme Activity of "Grow Together with Zhenhai Base"

Sinopec Zhenhai Base is one of the seven national petrochemical industrial bases. During the reporting period, under the theme of "Growing Together with Zhenhai Base", the Group set off an upsurge at the project construction site of Zhenhai Base, which was instrumental in the smooth progress of the project.

Under the goal of "Handover before 630", each member company of the Group actively carried out the theme labor competition, vigorously promoted the spirit of model workers, labor spirit and craftsman spirit, and created high-quality petrochemical projects with excellent quality and safety performance. The Group gave full play to its overall advantage as a "legion" while, with the spirit of "one family, one mind, one goal and unity", all member enterprises made concerted efforts to tackle difficulties and successfully achieved the common goal of "Handover before 630". The talent team was tempered and the common growth of talents and the project realized.



Employees' training

Taking cultivating high-quality talents as its long-term development strategy and promoting the overall improvement of employees' quality as its starting point, the Group committed to building a "learning, service-oriented and innovative" organization. During the reporting period, we held fruitful online and offline training courses such as "Suppliers' Administrators Training Course", "Project Management Training Course" and "Online Continuing Education Training Course for Safety Management Staff".

We focus on developing and improving key training programs. We have organized the annual key training program "Training Course for Improving the Ability of Project Managers" to build a team of project managers with excellent quality, effectively solve the common and difficult problems in engineering construction, and further improve the organization, management and decision-making ability of refining engineering construction project managers and cultivate outstanding backup talents. We offer 280-hour courses around four modules, i.e., ideological education, skill improvement and strategic thinking. We have also improved the training courses for the Company's young backbone employees and optimized the content, time and method of the training courses to make them more useful and applicable.

Due to the impact of the pandemic, we carried out various trainings in the form of "online business knowledge training + offline examination and certificate collection". During the reporting period, the total training duration reached 825,000 hours, with a total investment of RMB 43.36 million, and the average training duration of employees reached 48.61 hours.

Promote standardization of training	Formulate the <i>Management Regulations of Sinopec Engineering Group on Staff Training</i> and the <i>Implementation Rules of Sinopec Engineering Group on Staff Training</i> to promote the construction of the Company's talent training system.
Improve training resources	Strengthen the management ability of the education and training center, provide high-quality training support for the Company's training work, organize the education and training center to benchmark the teaching philosophy and services of Sinopec Group's School of Management, and continuously optimize and enhance the training ability of the education and training center based on the training experience accumulated in recent years.
Establish a pool of full-time and part-time trainers	Establish a pool of full-time and part-time trainers, promote the sharing and inheritance of internal management experience and knowledge information, and the sharing of training resources such as excellent trainers.
Diversified training methods	Adopt the training methods such as "online training" and "offline training", and apply various means such as network training, simulation training, remote education and audio-visual education. At the same time, based on different trainees and training contents, flexibly choose multimedia viewing, on-site observation, hands-on operation, experience & exchange, appraisal of competition, assessment and other methods to improve the training results.

Staff training of the Group in 2021:

Name of indicator	Unit		2021
Percentage of trained employees by gender	Male	%	57.03
	Female	%	42.97
Percentage of trained employees by employee category	High-level	%	21.21
	Medium-level	%	35.20
	Ordinary employees	%	43.59
Average training hours of employees by gender	Male	Hour(s)/person	51.01
	Female	Hour(s)/person	46.21
Average training hours of employees by employee category	High-level	Hour(s)/person	43.54
	Medium-level	Hour(s)/person	49.30
	Ordinary employees	Hour(s)/person	52.99
Total training hours	10,000 hours		82.50
Training input	RMB 10,000		4,336

Case | Promote the "mentor-apprentice" model to accelerate the growth of young talents

The "mentor-apprentice" model is an important way for the Group to accelerate the growth of young talents. According to different majors, Sinopec Engineering Incorporation, a member company of the Group, took measures such as "double tutorial system of scientific research and development + engineering design", "double tutorial system of mentor + apprentice" and the co-mentoring system in multiple professional fields. During the training period, the whole process was managed from the selection of mentors, pairing of mentors and apprentices, apprenticing ceremony, signing of agreements, follow-up training, assessment and evaluation, and selection of outstanding mentors and apprentices. Over the years, we have maintained a 100% apprenticeship rate for fresh college graduates, formed a regular youth training mechanism, and built a solid foundation for the development of young talents. A total of 134 pairs of mentors and apprentices have been named "Outstanding Mentors and Apprentices" by the company.



Award ceremony of "Outstanding Mentors and Apprentices" held by Sinopec Engineering Incorporation

Guangzhou Engineering Co., Ltd., a member company of the Group, based on the summary of many years' experience, formulated the Management Regulations on Mentoring and Apprenticeship to further improve the institutionalization level of the "Mentoring and Apprenticeship" work. Since 2017, the signing rate of the "Mentor-Apprentice Agreement" for fresh graduates has reached 100%, and a total of 201 pairs of mentors and apprentices have been formed. In 2021, at the signing ceremony of the "Mentor-Apprentice Agreement" & the meeting in commendation of outstanding mentors and apprentices, 11 pairs of mentors and apprentices won the title of "Outstanding Mentors and Apprentices".



Signing the "Mentor-Apprentice Agreement" with fresh employees of Guangzhou Engineering Co., Ltd.

Case | Hold international engineering management workshops

Nanjing Engineering Co., Ltd., a member company of the Group, adopted the form of Workshop to carry out training on international engineering management knowledge in order to cultivate fast-growing employees and international compound reserve talents. Combining with the actual cases of its overseas projects, the company invited experts in related fields to teach international engineering management knowledge through offline and online lectures and workshops to familiarize trainees with the company's overseas business operation model and rules, enable them to understand and master the work methods and skills, and inspire them to learn, think and grow. During the reporting period, a total of 17 international engineering management Workshops were held.



Care about employees' health

Employees' health is an important guarantee for the stable development of the Company. In accordance with the Management Regulations of Sinopec Group on Employee's Health, the Group implements the management model of employees' health and overall health. According to the model, based on occupational health, the occupational health, physical health and mental health of all employees are mutually promoted and simultaneously improved, and the people-oriented concept is fulfilled to safeguard employees' health rights and interests.

Pandemic prevention and control

In strict accordance with the goal of "zero infection at home and zero gathering abroad", the Group adhered to the combination of layered prevention and control and local emergency treatment, and strictly implemented various prevention and control measures at home and abroad, thus effectively ensuring the safety of employees.

For more details, please refer to Topic 2 "Do a good job in pandemic prevention and control against the odds" in this report from page 11 to 12.

Occupational health

The Group has always adhered to the principle of "prevention first, combining prevention with treatment" and the concept of "putting health and safety first", and strictly abided by the relevant laws and regulations on occupational health in the country and region where the project is located, such as the Law of the People's Republic of China on Prevention and Control of Occupational Diseases, the Management Regulations for Occupational Health Inspection, the Regulations on Supervision and Management of Occupational Hygiene in Workplaces, the Prevention and Control Standards for Occupational Hazards in Construction Industry, and Kuwait's Labor Law, Safety Precautions against Occupational Injuries and Diseases, Medical Evaluation when Occupational Injuries and Diseases Occur, etc.

During the reporting period, the Group had no cases related to occupational diseases, no pandemic events at home, no gathering pandemic abroad, and no severe or fatal cases.





Improve the occupational health management system

- ◆ Formulate a series of management systems such as the *Regulations on Health Management of Employees of Sinopec Engineering Group*, the *Regulations on Management of Labor Protection Expenses of Sinopec Engineering Group*, the *Regulations on Management of Individual Labor Protection Articles of Sinopec Engineering Group* and the *Regulations on Management of Labor Protection Articles at Construction Sites*;
- ◆ Revise the *Regulations on Health Management of Overseas Employees of Sinopec Engineering Group*, and do a good job in employee health management from four aspects: before going abroad, staying abroad, during the trip, and after returning to China.



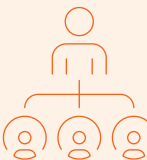
Identify the influencing factors of occupational hazards in workplaces

- ◆ Identify the occupational hazards that may occur in the construction process according to the *Code for Prevention and Control of Occupational Hazards in Construction Industry* (GBZ/T 211-2008), detect them regularly, and inform the operators truthfully.



Issue occupational health protection articles in accordance with regulations

- ◆ Operators shall be distributed qualified personal protective equipment, such as protective clothing, protective glasses, protective masks, protective gloves, insulated shoes, earplugs, winter clothes, washing products, etc., and urge them to use them correctly.



Carry out occupational health training

- ◆ Organize pre-job and on-job occupational health-related knowledge training for operators on a regular basis to ensure that they have the necessary occupational health knowledge to correctly use occupational disease prevention facilities and personal protective equipment, and forbid those who fail the training and examination to work at their posts;
- ◆ Organize on-site first aid training;
- ◆ Hold health knowledge lectures to help the staff to understand and pay attention to the prevention and treatment of occupational diseases.



Organize occupational health examination and establish occupational health surveillance archives

- ◆ According to the employees' age, post and location, organize the occupational health examination before, during and after the job, and inform the employees of the results in writing.

Physical and mental health

In order to protect the health rights and interests of domestic and overseas employees and promote the overall health of employees, the Group has formulated a series of management systems and guidelines such as the *Regulations on Health Management of Employees of Sinopec Engineering Group*, the *Regulations on Health Management of Overseas Employees of Sinopec Engineering Group*, the *Guidelines for the Health Risk Assessment of Overseas Employees*, and the *Guidelines for the Prevention and Control of Cardiovascular and Cerebrovascular Diseases of Overseas Employees*, which have defined the responsible department of health management and formed a sound employee health management system. We adhere to the principle of "early detection, early intervention and early treatment", and include health management funds in the annual budget to ensure the effective implementation of employee health management.



During the reporting period, we organized on-site first aid training, focusing on the use of the automated external defibrillator (AED), theory and practice of cardiopulmonary resuscitation, and office health care skills; carried out employee health services, providing video consultation, referral to Beijing and appointment with famous doctors for employees; carried out physical examination for employees, formulated physical examination plans for employees of different ages, and established a list of physical examination for high-risk personnel; and carried out physical examination and evaluation of employees before they went abroad.

The Group implements the Employee Assistance Program (EAP), aiming to help employees solve their occupational mental health problems, care about employees' situations beyond work, discover and relieve employees' unsafe and unhealthy lifestyles and bad psychological state in time, and guide and promote employees' self-health management; actively understand the working environment and thinking of overseas employees, and provide them with services such as video consultation and health risk assessment.

Case | Establish an early warning platform for employees' health

Based on the information technology and the Internet of Things technology, the Security Technology Center of Sinopec Fifth Construction Co., Ltd., a member company of the Group, has established an early warning platform for employees' health. Through the services such as health risk assessment, real-time online monitoring, psychological consultation, health warning, daily health care, remote diagnosis and treatment, and quick medical treatment, the platform has helped the enterprise effectively manage employees' health risks in advance, intervene in advance, obtain employees' health data in real time, and effectively manage and analyze employees' health examination data.

Case | Set up health stations for employees

According to the needs and expectations of employees, Sinopec Fourth Construction Co., Ltd., a member company of the Group, has set up 86 health stations for employees and achieved 100% coverage. Mainly concentrated in the first-line construction sites, these stations have been equipped with commonly used medicines and heatstroke prevention and cooling supplies. At the same time, they also have small fitness equipment such as body fat scales, thus enabling employees to pay attention to their health.



The Health Hall of the Safety Technology Center built by Fifth Construction Co., Ltd.



Experts invited by Heavy Lifting & Transportation Co., Ltd. offering EAP psychological counseling for employees.



Sinopec Engineering Incorporation and Beijing Anzhen Hospital's Medical and Social Work Department jointly giving free medical treatment



Guangzhou Engineering Co., Ltd. carrying out EAP training

Care about employees' life

The Group cares about employees' work and life, attaches importance to humanistic care, actively solves practical problems for employees, vigorously carries out warmth activities, and earnestly cares about employees' lives. We have carried out a variety of activities to encourage employees to balance their work and life, and created a positive, optimistic and harmonious working atmosphere through fitness activities and fun games.



Sinopec Engineering Incorporation organizing the activity of "cutting window decorations and writing Spring Festival couplets"

Guangzhou Engineering Co., Ltd. holding the "Innovation Cup" football match for employees

Shanghai Engineering Co., Ltd. holding the Public Open Day themed "Better Childhood, Better Future"

Energy Management Technology Service Co., Ltd. organizing summer series activities for children



Stable and Safe Operation

Safety production is the foundation of the sustainable development of the Group. The Group strictly abides by the Safety Production Law of the People's Republic of China, the Measures for the Administration of Construction Permits for Construction Projects, the Measures for the Implementation of Fire Safety Responsibility System, the Special Equipment Safety Law of the People's Republic of China, the Regulations for the Management of Dangerous Chemicals, the Emergency Regulations for Production Safety Accidents and the relevant laws and regulations on production safety in the place where the project is located, and implements the overall requirement of "safety is put above anything else", strengthens safety risk management, and promotes the long-term mechanism of production safety so as to ensure production safety.

Strengthen safety management

The Company has established the HSE management system with the distinctive characteristics of refining and chemical engineering, strengthened the information collection, transmission and analysis, implemented the PDCA system operation cycle, and strengthened the process assessment in all links of system operation so as to improve the safety management level.

In addition, the Company has established the HSE Management Committee, which, as the highest decision-making establishment of HSE management, is responsible for handling the major HSE issues of the Company. The Committee has set up an office as the permanent establishment to carry out daily work.

Responsibilities of the HSE Management Committee of the Company

- ◆ Implement the HSE guidelines, policies, laws, regulations, standards, norms and provisions of the state and local governments and Sinopec, and organize the implementation through functional departments and subsidiaries
- ◆ Organize the formulation of the Company's HSE policy, objectives and HSE management standards, and supervise the implementation of HSE responsibility system
- ◆ Study and decide the major decisions of the Company's HSE work, organize the assessment of major hidden dangers, and urge special personnel to have a project registered for rectification
- ◆ Review the emergency rescue plan for major emergencies, organize and coordinate the HSE inspection, organize, coordinate and guide special personnel in investigating and handling safety accidents
- ◆ Hold working meetings of the committee on a regular basis, review and approve the annual or stage HSE work plan of the Company, discuss and decide the major issues in HSE management and measures that should be taken, and decide the annual HSE work deployment
- ◆ Review and approve advanced units, collectives and workers in safety production, occupational health and environmental protection, and decide on matters of commendation and punishment
- ◆ Guide, supervise and coordinate the HSE Management Committee of subsidiaries in carrying out work
- ◆ Set up the Company's safety technical expert group

Case | Employee representatives of Sinopec Engineering Group participated in the torch relay of the Beijing Winter Olympics

In February 2022, on behalf of nearly 20,000 employees, two employee representatives of Sinopec Engineering Group participated in the torch relay ceremony of the Beijing Winter Olympics as torchbearers.



Torchbearer Mr. Su Hong

"The shell of 'Flying' torch and the hydrogen fuel in the main venue are all made by Sinopec Group. I am very honored and proud to participate in the torch relay of the Beijing Winter Olympics on behalf of SEG," said Su Hong, a survey and design master of petrochemical industry, a senior expert of Sinopec Group, and leader of polyolefin technology at Sinopec Engineering Incorporation, a member company of the Group.



Torchbearer Ms. Ba Jia

"Sinopec Engineering Group has participated in the scientific and technological research of new materials for the torch shell. As the representative of SEG, I am extraordinarily proud to hold the 'Flying' torch partially developed and manufactured by ourselves to participate in the torch relay!" said Ba Jia, an outstanding youth representative of the Group.

Safety management policy of the Group (examples)

<i>Regulations on Safety Risk Management of Sinopec Engineering Group (Trial)</i>
<i>Regulations of Sinopec Engineering Group on Emergency Management</i>
<i>Management Regulations of Sinopec Engineering Group on HSE Risk Control and Hidden Danger Investigation (Trial)</i>
<i>Safety Management Regulations of Sinopec Engineering Group for High-risk Operations</i>
<i>Regulations on Emergency Management</i>
<i>Management Regulations for Production Safety Accidents (Events)</i>
<i>Safety Management Regulations for Production Change</i>

Specify safety production responsibilities

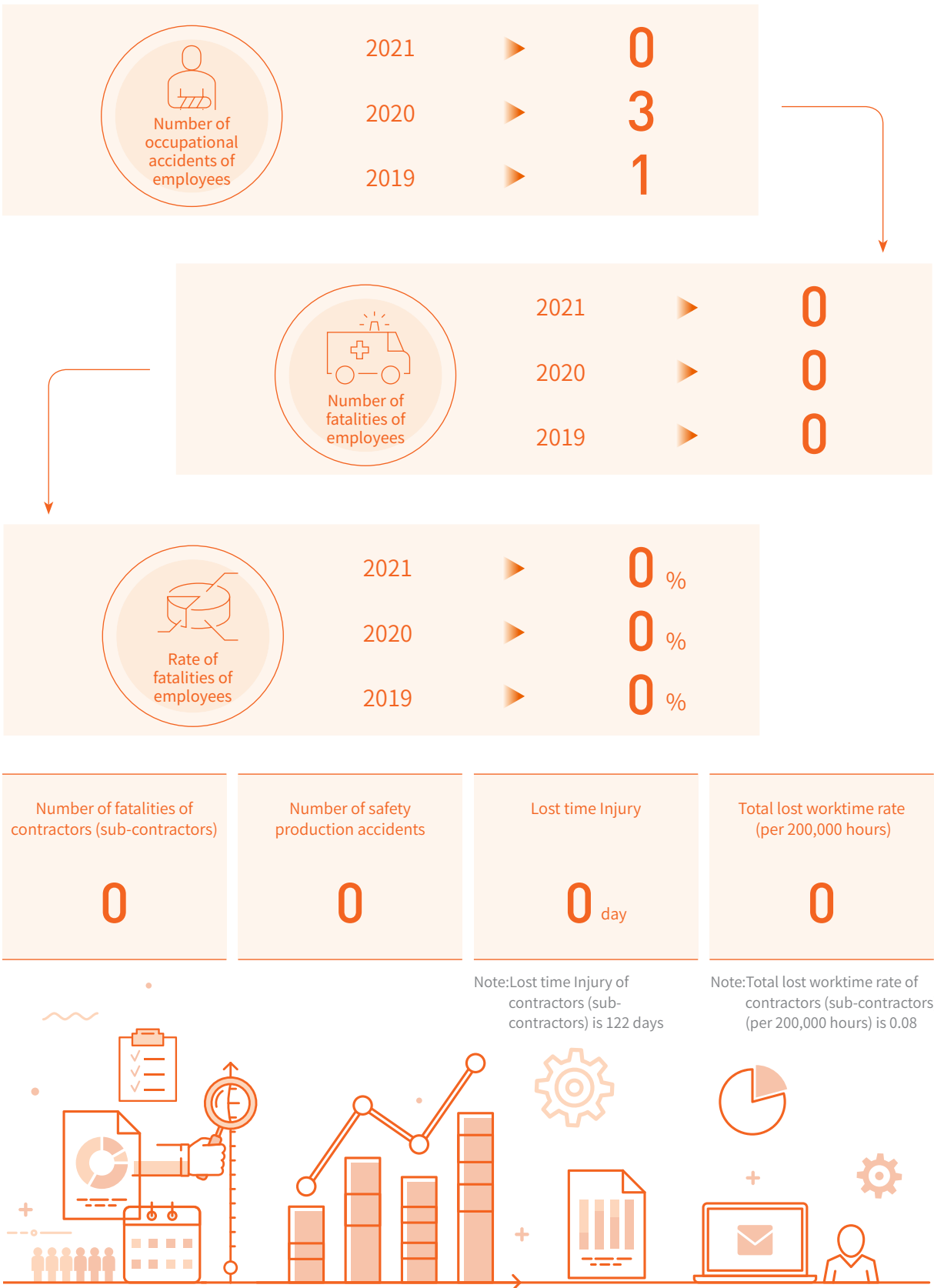
The Group firmly adheres to the concept of safe production, follows the principle of "putting life and safety first", clearly specifies the persons responsible for safe production, and focuses on safety risk management, safety supervision and hidden danger investigation and management so as to ensure safe and stable operation. During the reporting period, the 11 member companies of the Group passed the ISO 45001 occupational health and safety management system certification, achieving 295 million safety man-hours and maintaining a stable trend of safe production.



Precautions against safety accidents

Safety risk identification	◆ Establish a dual prevention mechanism of layered management and control of HSE risks and investigation and management of hidden dangers, clarify the responsibility of risk identification and dynamic management and control requirements, and establish a risk list database; ◆ Implement operation permit management for 17 high-risk operations, apply risk analysis tools, standardize the identification, evaluation, layered management and control of HSE risks in the production process, and the investigation and management of hidden dangers, so as to prevent and reduce accidents and improve the intrinsic safety level; ◆ Keep an eye on the safety risks brought by new energy business such as hydrogen energy, wind power and PV, and continue to pay attention to the intrinsic safety risks in the process of "oil conversion" and "special oil"; ◆ During the reporting period, a total of more than 120 enterprise-level risks were sorted out and investigated, and 13 major company-level safety risks under key control were all eliminated or downgraded.
Major production safety contracting system	◆ Compile the <i>Safety Leadership Manual</i>, which puts forward the principle requirements for the management, and make the "safety observation card" which is used as the basis for safety observation of contact points and risk contracting points; ◆ The management implements "Four Ones" for major risk contracting points, i.e., at least inspecting the site once, holding one special meeting, listening to one special report and solving one problem.
Carry out project safety supervision	◆ Adopting on-site, online, self-inspection, mutual inspection and other forms and starting with 13 categories and 137 sub-items in the "Inspection and Confirmation Form of Safety Management in the Whole Process of Maintenance Projects", we strengthened maintenance safety supervision and completed the full-coverage supervision of 10 large maintenance projects; ◆ Formulate the <i>Promotion Plan of Major Business Risk Management and Control System Construction Based on the Whole Life Cycle of Project Contract</i>, and conduct safety inspection or HSE management system audit for major risk management and control projects; ◆ Set up safety and quality supervision teams in key projects, and dispatch safety and quality experts to the site for supervision and inspection. At the same time, strengthen the safety supervision of projects in construction peaks.
Carry out the "100-day Safety Accident-Free Action"	◆ Organize all member enterprises to check and correct 4,525 items around key and difficult points after holidays such as resumption of work and production, inspection, maintenance and operation.
Improve the accident & event sharing platform and the statistics and reporting mechanism of close-call event data	◆ Establish an accident & event sharing platform and sharing mechanism, incorporate typical accident cases inside and outside the system into the platform, and insist on "five-minute warning & sharing" for accidents at home and abroad, and inside and outside the system before each meeting and activity, so as to improve the level of accident prevention; ◆ Strengthen the management of close-call events and improve the statistical reporting of close-call events.
Carry out management system audit	◆ Revise the HSE management system audit criteria, compile the audit and scoring rules for HSE management system, set up 34 evaluation elements and nearly 900 evaluation items, conduct HSE management system audit for all member enterprises on an annual basis, and quantitatively evaluate HSE construction and operation performance; ◆ Set up three audit teams to audit the QHSE management systems of 9 member enterprises, 9 secondary units and 10 project departments.
Attach importance to overseas operation safety	◆ Strictly abide by the <i>Management Regulations of Sinopec Group on Overseas Public Safety</i>, the <i>Code of Sinopec Group for Risk Assessment of Overseas Public Safety (Trial)</i> and other management regulations, as well as the safety-related laws and regulations in the place where the project is located; ◆ Establish HSE management mechanism for overseas projects, set up HSE committee, define the responsibilities and working mechanism of the committee, and coordinate the safety management of overseas projects; ◆ Create a whole-process and whole-system project risk prevention and control mechanism. Carry out risk identification, analysis and quantitative evaluation of important projects implemented overseas, and incorporate sand table deduction based on game theory into the projects; ◆ Set up an overseas public safety supervision working group to tour-inspect the safety management of overseas petrochemical projects.

During the reporting period, the Company's safety production work is described below:



2021

➤

0

2020

➤

0

2019

➤

0

Number of fatalities of employees

2021

➤

0 %

2020

➤

0 %

2019

➤

0 %

Rate of fatalities of employees

Number of fatalities of contractors (sub-contractors)

0

Number of safety production accidents

0

Lost time Injury

0 day

Total lost worktime rate (per 200,000 hours)

0

Note:Lost time Injury of contractors (sub-contractors) is 122 days

Note:Total lost worktime rate of contractors (sub-contractors) (per 200,000 hours) is 0.08

Case

Give full play to its advantages of "Large Troop Formation" and carry out safety and quality supervision

Giving full play to its advantages of "Large Troop Formation", the Group selected 16 quality and safety experts from its headquarters and 8 member companies and formed the Zhenhai Refining & Chemical Quality and Safety Supervision Group, which, stationed at Zhenhai Base in mid-May 2021, continuously conducted cross-check and joint inspection on 12 high-risk operation areas of Zhenhai Refining & Chemical Base Project and 14 technical transformation projects in the old factory area, and urged relevant units to rectify and implement the safety risks and hidden dangers due to the adjustment of construction period, as well as the risks caused by the unclear definition of the management interface, thus building a safe defense line.

Promote the safety of stakeholders

The Group pays attention to the safety management of suppliers and subcontractors, clearly requires unified HSE management for subcontractors, carries out HSE system audit for strategic subcontractors, and achieves full coverage every three years.

Subcontractors receive HSE training and education at the same standard as employees of the Company, participate in risk identification, attend HSE meetings and HSE inspections, and are equipped with labor protection articles according to the standards of Sinopec Group. Incorporating subcontractors into the Company's health management category, the Company requires all personnel to have a health examination before entering the site, and establishes a list of personnel with occupational contraindications to implement special management; carries out daily monitoring of places and posts exposed to occupational harmful factors, informs subcontractors exposed to occupational harmful factors of occupational hazards, and carries out occupational health examination.

Carry out safety training and publicity

The Group continues to strengthen the construction of safety production culture, creating a sound safety culture atmosphere, strengthening publicity, education and training, and steadily improving employees' safety skills. We compiled safety videos and trained our own and our subcontractors' safety management personnel online; issued the Notice on Strengthening Supervision Management, and put forward the requirements for strengthening guardianship management from six aspects, i.e., guardianship duty, site interview, training and certificate collection, resource allocation, supervision and assessment; compiled the Safety of Supervisors Series 1+7, and strengthened the skills training of guardians from eight aspects, i.e., general duty, hot work, breaking ground, use of electricity, hoisting, restriction, height and blind plate; organized more than 600 people to participate in more than 20 trainings, such as improvement of inspection and maintenance safety management ability, high-altitude operations, and cultivation of scaffold inspectors; organized NEBOSH (The National Examination Board in Occupational Safety and Health) training to reserve international safety talents; and organized more than 800 professionals to carry out the preliminary training competition of "work permit and supervision". Each member enterprise conducted hands-on training and skill verification for on-site construction workers through the mobile safety island, safety night school, multimedia training toolbox and staff classroom so as to enhance their safety awareness and professional skills.

During the reporting period, the Group organized 106 safety trainings involving a total of 10,200 participants, and totaling 47,000 safety training hours.

Case

Optimize training content and strengthen safety education through various measures

In order to improve employees' management ability and safety skills, Sinopec Tenth Construction Co., Ltd., a member company of the Group, compiled and published the Cartoon Manual on the Safety of Lifting Operations, the Cartoon Manual of Common Mistakes in Scaffolding Operation and the Cartoon Manual on the Safety of the Temporary Use of Electricity, presenting the standard procedures and problems in key operation links in simple and colorful cartoons by integrating science, humor, fun and practicality, and thus effectively improving employees' safety awareness and their skills in safe operation and management.

Partner with Responsible Partners

The Group is committed to building a responsible supply chain. Abiding by the principle of fair procurement, the Group strictly controls the fairness of the process of selecting supply chain partners and continuously promotes procurement standardization and informatization construction to ensure compliance, transparency, fairness and justice of procurement process. For suppliers and subcontractors with whom we have established cooperative relations, we will sign the Letter of Responsibility for Integrity to prevent commercial bribery, standardize trading behaviors and maintain fair competition so as to form a transparent material supply ecosystem.

Supplier management

The Group has established a strict supplier selection mechanism based on the principles of fairness, justice and openness. It has formulated management systems such as the Management Regulations of Sinopec Engineering Group on Supplier Access, the Management Regulations of Sinopec Engineering Group on Supplier Dynamic Quantitative Evaluation and Ordering, and the Regulations of Sinopec Engineering Group on Supplier Management. When selecting suppliers, we explicitly take into consideration the sustainable development practices such as HSE management and the establishment of quality systems so as to prevent ESG risks at the supply chain level.

We supervise and inspect the implementation of supplier assessment, and require all member enterprises to conduct daily management of supplier assessment and implement internal supervision and assessment. At the same time, we also deal with the violations by suppliers in time.

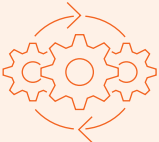
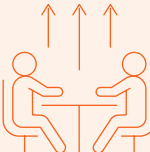
During the reporting period, we set out to build a supply resource management platform for overseas projects. We formulated and revised the Regulations of Sinopec Engineering Group on Supply Resources Management, the Regulations of Sinopec Engineering Group on Site Inspection of Suppliers and the Regulations of Sinopec Engineering Group on Supplier Assessment, and provide institutional support for the construction of overseas supply resource pools and management platforms.

By the end of the reporting period, 85 new suppliers had established service relationships with the Group, making the total number reach 3,041; 85 new suppliers have been filed, making the total number reach 515; 29 new overseas suppliers had been added, making the total number reach 343.



Subcontractor management

The Group attaches great importance to the management of ESG risks of subcontractors. We revised and published the Company's subcontracting management system documents, including the *Regulations of Sinopec Engineering Group on Subcontracting Management*, the *Regulations of Sinopec Engineering Group on Subcontracting Management*, the *Regulations of Sinopec Engineering Group on Subcontractor Evaluation Management*, the *Regulations of Sinopec Engineering Group on the On-site Management of Subcontractors*, the *Regulations of Sinopec Engineering Group on the Management of Subcontractor Resource Pools* and the *Regulations of Sinopec Engineering Group on the Management of Strategic Subcontractors*, so as to unify management standards, work procedures, the establishment of resource pools and evaluation, thus further standardizing subcontracting management behavior and promoting the fulfillment of responsibilities by subcontractors.

 Establish strategic subcontractor management mechanism	Define the company-level unified strategic subcontractor cultivation ideas and paths from the aspects of task planning, process management, assessment, and promotion & demotion management, etc. Re-evaluate and update the list of strategic subcontractors of the Company, and form a new list of strategic subcontractors including 101 companies and covering 132 specialties.
 Organize the annual comprehensive assessment of subcontractors	A total of 540 subcontractors with 690 specialties were comprehensively assessed. According to the assessment results and the promotion and demotion management methods, the subcontractors were promoted or demoted, dynamic management implemented, and subcontracting resources optimized.
 Organize QHSE inspection	Organize QHSE inspection, focusing on the on-site implementation of QHSE by subcontractors. Each member enterprise carried out QHSE system audit and inspection on 96 subcontractors.
 Guide and urge subcontractors to make continuous improvement	According to the inspection results, we adhered to combining both rewards and punishments, communicated with unqualified subcontractors and cancelled the qualification accordingly, the on-site safety behaviors were effectively restrained and safety guaranteed.
 Organize special meetings on subcontracting management	Organize special meetings on subcontracting management, share and exchange the experience of subcontracting management, discuss the key work of subcontracting management, thus laying a solid foundation for the work in the next step.

Case | Carry out special inspection of subcontractors

During the reporting period, the Group organized equipment inspection for three key construction projects, including Zhenhai Project, Maoming Commercial Storage Project and Zhongsha Carbon Accumulation Project. The inspection covered 10 member enterprises, involving a total of 16 project sites. The management and use of subcontractors' equipment were carefully inspected, 280 problems found out and timely rectification required, thus improving the level of managing subcontractors' equipment.



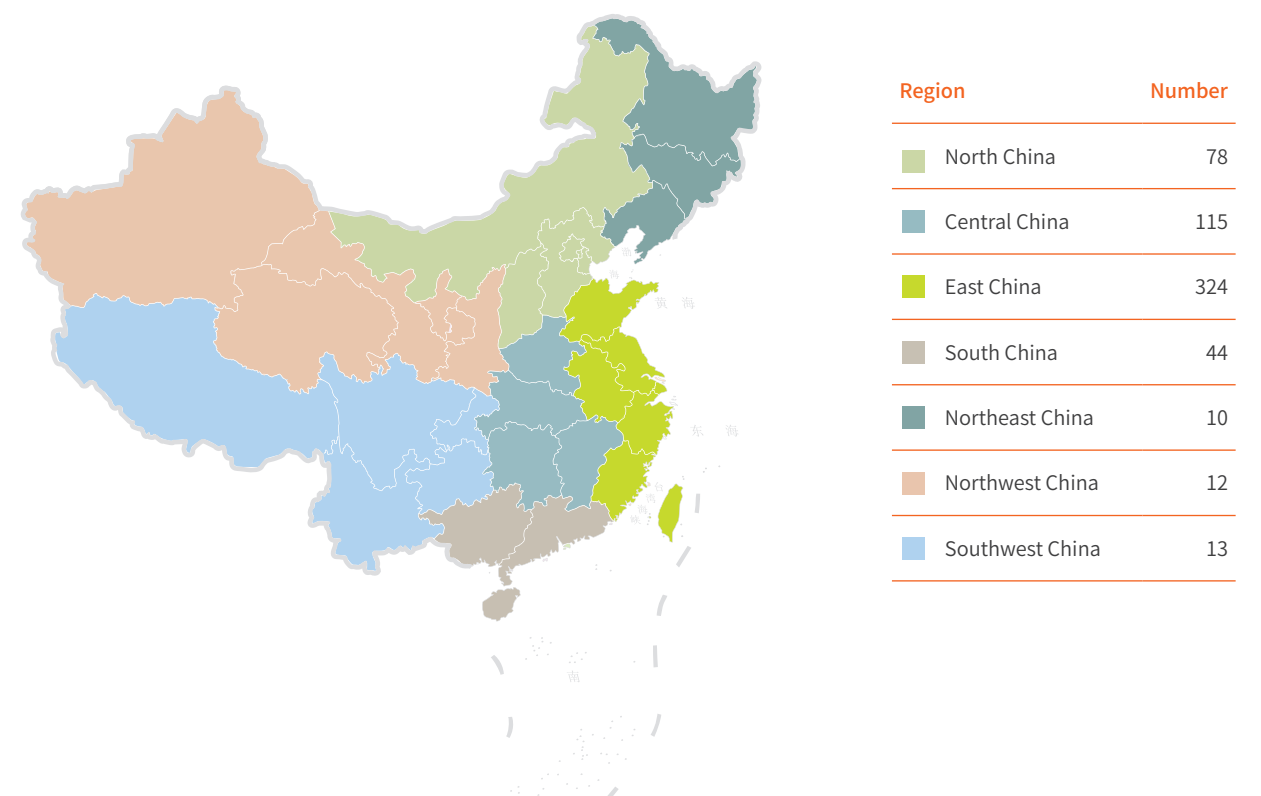
Case | Systematically carry out training for subcontractors

Sinopec Fourth Construction Co., Ltd., a member company of the Group, incorporated the training management of subcontractors into the overall training management system of the company, and implemented it in accordance with the Management Regulations on Safety Training and Safety Capability Improvement of the Company. Based on the principles of "holding certificates to posts, joint management, and information sharing", Sinopec Fourth Construction Co., Ltd. adhered to the access system of "no admission without training, no posts without certificates". Subcontractor training includes pre-job training and on-job training, with its content covering HSE management, technical management, quality management, material management, civilized on-site construction and process handover, finished product protection management, etc.



Contractor/subcontractor HSE system certification and audit	2021
Number of contractors/subcontractors passing environmental management system certification	596
Proportion (%) of contractors/subcontractors passing environmental management system certification	100
Number of contractors/subcontractors passing quality management system certification	596
Proportion (%) of contractors/subcontractors passing quality management system certification	100
Number of contractors/subcontractors passing occupational health safety management system certification	596
Proportion (%) of contractors/subcontractors passing occupational health safety management system certification	100

The numbers of contractors/subcontractors by region during the reporting period are presented below:



Promote green procurement

Green procurement is an important part of the Group's "Green Enterprise Action Plan", which is incorporated into the "Implementation Plan of Sinopec Engineering Group for Green Enterprise Action" to promote the implementation of the green procurement concept. The Group actively adopts the products in the Recommended Catalogue of Energy-saving Mechanical and Electrical Equipment (Products), specifying that it is strictly prohibited to purchase obsolete, backward and energy-consuming materials; at the same time, the energy consumption indicators of equipment and pumps are defined to purchase equipment, motors and materials that meet the quality standards and the green and energy-saving requirements.

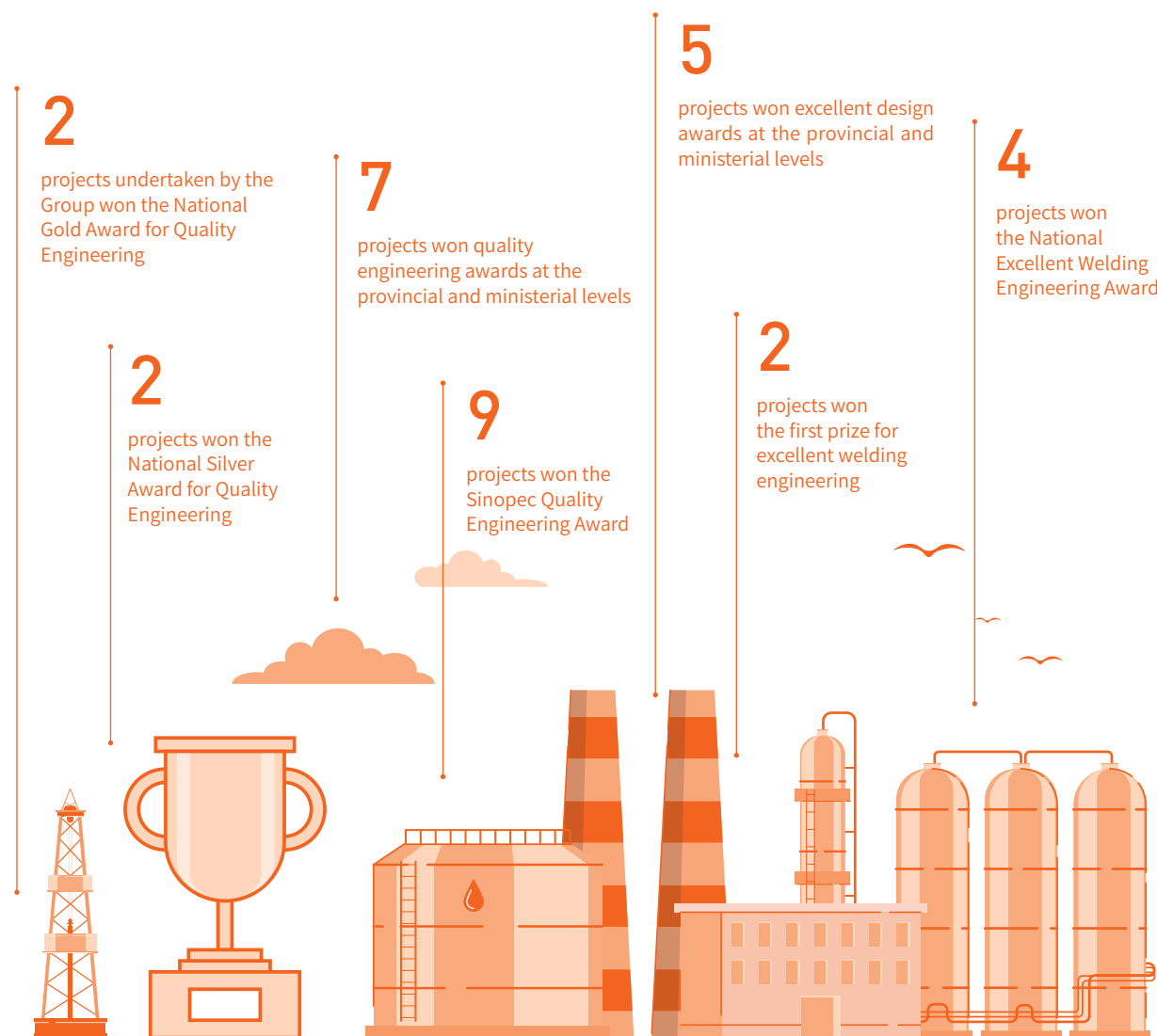
Improve Product Services

Strictly control product quality

In response to the goal of building national high-quality projects, the Group has always deemed it its duty to build "model projects" and "high-quality projects" to ensure the "safety, stability, long term, full capacity and optimization" of the devices after they are put into operation, and regarded it as its core competitiveness. The Group strictly abides by the Construction Law of the People's Republic of China, the Regulations on Quality Management of Construction Projects, and the laws, regulations, technical standards and regulatory requirements related to engineering quality in the place where the project is located, such as the Road Construction Law of the Kingdom of Saudi Arabia.

The Group continues to promote the implementation of the quality management system, optimizes the project management mechanism and system, clarify job responsibilities, and implements the project process monitoring so as to ensure the delivery quality of each project in an all-round way and continuously improve its project management level, thus establishing a good brand image and market reputation and enhancing its global competitiveness.

During the reporting period, two projects undertaken by the Group won the National Gold Award for Quality Engineering, two projects won the National Silver Award for Quality Engineering, seven projects won quality engineering awards at the provincial and ministerial levels, nine projects won the Sinopec Quality Engineering Award, five projects won excellent design awards at the provincial and ministerial levels, two projects won the first prize for excellent welding engineering, and four projects won the National Excellent Welding Engineering Award.



Establish the quality management responsibility system	◆ Establish the project quality management responsibility system covering all member enterprises and all levels, and define the functions and responsibilities of each company, functional department, project manager as well as related jobs.
Promote quality objective management	◆ Formulate the <i>Management Regulations for Quality Objectives</i> , strengthen project quality management, formulate documented quality control plans and project quality management regulations based on the requirements of project contract and project characteristics, and inspect the fulfillment of the objectives on a regular basis.
Deepen the construction of quality management system	◆ Formulate the <i>Quality Management Regulations of Sinopec Engineering Group</i> , the <i>Implementation Regulations of Quality Management System</i> , the <i>Management Regulations on Construction Procedures of Engineering Projects</i> , the <i>Management Regulations on Construction Standards and Norms</i> , and the <i>Manual on the Management of International Projects</i> to further deepen the construction of quality management system.
Establish the quality management expert database	◆ Establish and publish the Company's quality management expert database, in which 100 quality management experts are selected, with their professional composition covering all specialties in refining and chemical engineering construction.
Strengthen on-site engineering quality management	◆ According to the key nodes of project management, the implementation rules such as the <i>Manuals on Quality Inspection of Petrochemical Projects (2020 Edition)</i> , the <i>List of Project Quality Control Points</i> , the <i>Management Regulations of Quality Tour-Inspection</i> and the <i>Engineering Tour-Inspection List of Branches</i> were compiled to further standardize the construction level, construction procedures and construction process.
Carry out quality verification and inspection steadily	◆ Establish the quality control reporting mechanism, and carry out quality inspection on all working procedures, all materials, spare parts and finished products through daily inspection, self-inspection, cross-project inspection and other methods so as to realize early detection, early treatment and early resolution of quality problems. In order to strengthen the quality verification during the implementation of the project, the stay-in-factory and flight inspection methods were adopted to ensure that the equipment and performance meet the quality requirements. ◆ On-site self-examination and self-correction of project quality were carried out, with 86 projects inspected by member enterprises.
Strengthen process control of design quality	◆ Compile the <i>Design Quality Control Procedure</i> , and specify the quality requirements in design planning, design input, design control, design output and design modification.
Improve the mechanism of handling engineering quality problems	◆ Formulate management methods and control procedures such as the <i>Management Regulations of Sinopec Engineering Group on Quality Accidents</i>, the <i>Management Regulations of Sinopec Engineering Group on Welding Quality Flight Inspection (Trial)</i>, the <i>Management Regulations of Sinopec Engineering Group on Quality Supervision and Inspection of Construction Projects (Trial)</i>, the <i>Control Procedures for Nonconforming Products</i> and the <i>Corrections and Management Procedures for Corrective Measures</i>. ◆ Set the project quality complaint management objectives, establish a layered handling mechanism to supervise and solve the complaint problems, formulate special rectification measures and corrective and preventive measures for the links where problems occur repeatedly in the project, and publicize the importance of learning among construction workers and technicians so as to avoid the re-occurrence of the previous problems. ◆ Complete the collection, sorting-out and sharing of the welding procedure qualification report (PQR) for overseas projects of the Company; compile and issue the <i>Manual of Common Quality Problems of Petrochemical Engineering Projects</i>.
Promote quality improvement	◆ Formulate the <i>Work Procedure for Continuous Improvement</i> , and work out improvement measures from the aspects of work objectives, cost of measures, systematicness and contingency, improved performance, customer satisfaction and reputation.

Case | Winning the National Gold Award for Quality Engineering

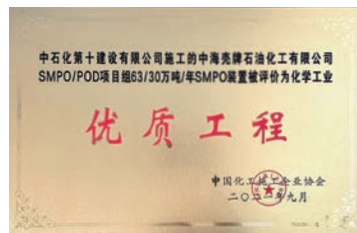
- During the reporting period, the project of 1.7 million tons/year methanol and olefin conversion from Zhong'an United Coal Co., Ltd., in which Sinopec Engineering Incorporation, a member company of the Group, was the general contractor, won the 2020-2021 National Gold Award for Quality Engineering. As an important strategic layout of energy cooperation between Sinopec and Anhui Provincial Government, this project has filled the gap of large-scale polyolefin in Anhui province, and made positive contributions to the clean and efficient utilization of coal by Sinopec Group and to promoting the transformation and development of Huainan.
- During the reporting period, the Hengyi (Brunei) PMB petrochemical project designed by Guangzhou Engineering Co., Ltd., a member company of the Group, won the 2020-2021 National Gold Award for Quality Engineering. As the first large overseas petrochemical project to fully implement Chinese standards, the largest foreign direct-investment project in Brunei and the largest overseas investment project of Chinese private enterprises, the project has been listed in the first batch of key "Belt and Road" construction projects.



Zhong'an United Coal-to-Methanol and Olefin Conversion Project



Hengyi (Brunei) PMB Petrochemical Project



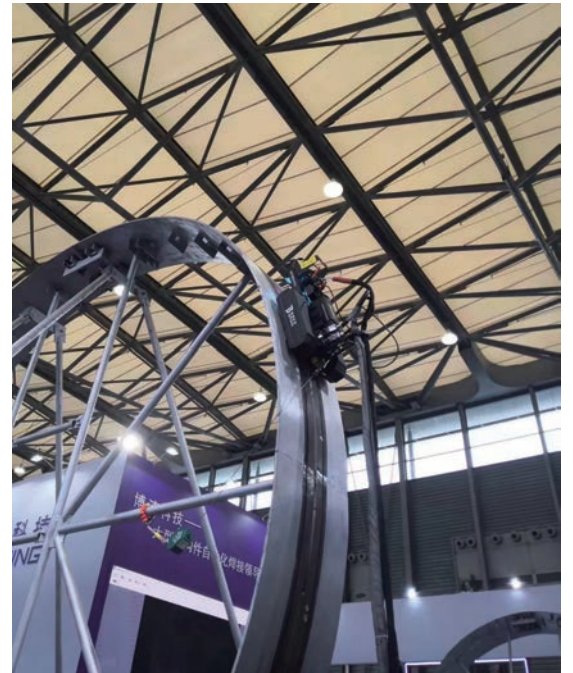
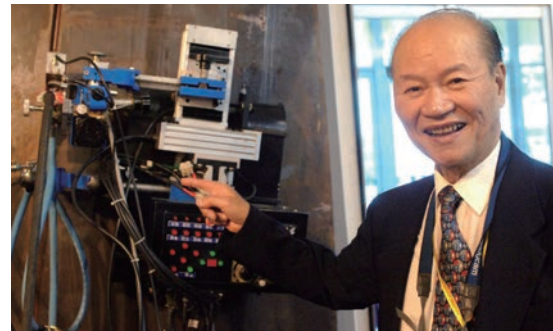
The SMPO (Styrene Monomer-Propylene Oxide) project of CNOOC and Shell Petrochemical Co., Ltd., which was contracted by Tenth Construction Co., Ltd., won the Chemical Industry Quality Engineering Award, and Tenth Construction Co., Ltd. was awarded the titles of "Excellent Construction Contractor", "Excellent Contractor for Safety Production" and "Excellent Contractor for Quality Management" by CNOOC and Shell Petrochemical Co., Ltd.



The EOEG device in the integration project of Zhongke Refining and Chemical Co., Ltd. undertaken by Fifth Construction Co., Ltd. wins the **First National Award for Welding Excellence**

Case | Promote the application of intelligent welding robots to create high-quality projects

In order to improve the existing welding equipment and welding technology level, and reduce the labor intensity and construction risk of manual welding at the project site, Sinopec Fifth Construction Co., Ltd., a member company of the Group, in conjunction with scientific research institutes, developed the "trackless, all-position crawling welding robot" project in the oil and gas and chemical fields, and successfully completed the industrial application test at the Nanjing project site of the Group. The test showed that the application of the trackless, all-position crawling welding robot can greatly improve the welding efficiency, reduce the construction cost and avoid potential quality hazards. The trackless, all-position crawling welding robot was widely used in the integration project of Zhongke Refining and Chemical Co., Ltd., making significant contributions to creating quality projects.

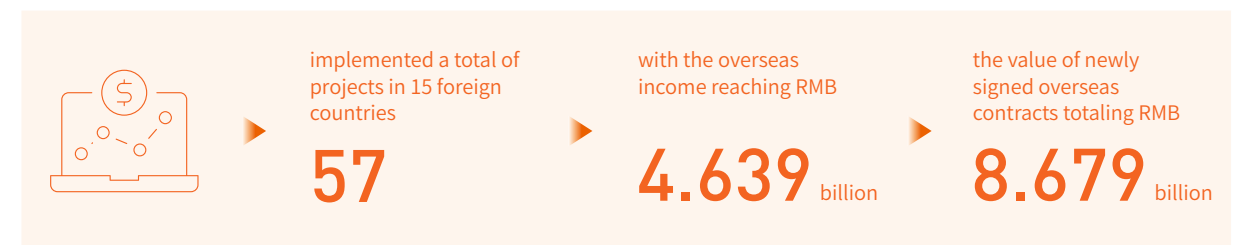


Pan Juluan, professor of Tsinghua University,funder of China's welding industry, promoting a lot to the study of crawling welding robot

Dig into overseas business

The Group vigorously promotes the market development along the "Belt and Road" route, gives full play to the synergy advantages of the Company's industrial chain, technology chain and business chain, promotes the application of advanced engineering technologies and management concepts, provides clients with a "one-stop overall solution" from technical consulting, feasibility study, financing arrangement and implementation & planning, and makes all-out efforts to push oil refining and chemical technologies, projects and equipment services to go global, promotes the coordinated development of the host country's economy, environment and society, and boosts the Company's international brand image and social reputation. At the same time, the Group has been actively establishing sound and stable cooperative relations with internationally renowned engineering companies, design companies and strategic partners to complement each other's advantages and jointly explore the market.

During the reporting period, the Group implemented a total of 57 projects in 15 foreign countries, with the overseas income reaching RMB 4.639 billion and the value of newly signed overseas contracts totaling RMB 8.679 billion.



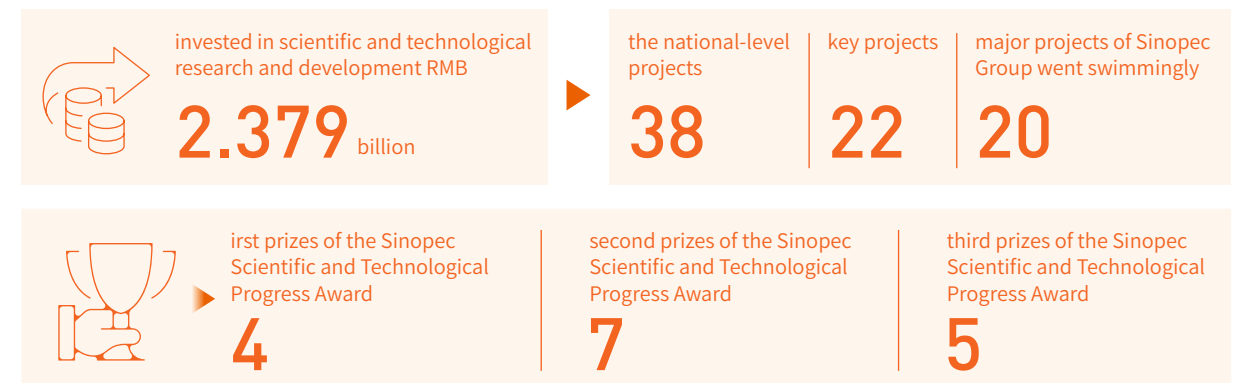
Adhere to Innovation-based Development

The Group vigorously implements the innovation-driven development strategy, puts innovation at the core of the Company's overall development, and adheres to innovation-driven development to improve the quality and efficiency of development.

Focus on scientific research

The Group continues to intensify technical research efforts, actively supports major national science and technology projects, undertakes key science and technology projects entrusted by Sinopec Group, leverages its professional advantages, studies specialized topics, and promotes the development of the industry; continues to strengthen cooperation with Sinopec Research Institute, and actively promotes the transformation and industrialization of scientific and technological achievements. During the reporting period, we invested RMB 2.379 billion in scientific and technological research and development, and the 38 national-level projects, 22 key projects and 20 major projects of Sinopec Group went smoothly. Innovation achievements won 92 (times) of the scientific and technological progress awards at the provincial and ministerial levels, and won 1 first prize of the National Scientific and Technological Progress Award, 4 first prizes, 7 second prizes and 5 third prizes of the Sinopec Scientific and Technological Progress Award.

* For more details, please refer to Topic 1 in this report.



Protect intellectual property rights

The Group strictly abides by the *Patent Law of the People's Republic of China* and other local laws and regulations related to intellectual property protection. During the reporting period, four relevant management systems were revised and improved, including the *Patent Management Regulations of Sinopec Engineering Group*, the *Management Regulations of Sinopec Engineering Group on Intellectual Property Protection*, the *Management Regulations of Sinopec Engineering Group on Technical Confidentiality Agreements* and the *Management Regulations of Sinopec Engineering Group on Proprietary Technologies*, so as to continuously improve the intellectual property management system and ensure that intellectual property rights cannot be infringed.

During the reporting period, Sinopec Engineering Incorporation, a member company of the Group, passed the certification of the "Management Standards of Enterprises on Intellectual Property Rights" and obtained the certificate of intellectual property management system certification which was planned to be promoted in the Group in an orderly manner to ensure the effective operation of the intellectual property management system. Shanghai Engineering Co., Ltd., a member company of the Group, organized the annual effective patent value evaluation, defined the grades for classified management, continuously communicated with patent agents, effectively simplified patent disclosure materials, and further stimulated the enthusiasm of technical personnel to apply for patents which were planned to be promoted in the Group in an orderly manner.



The certificate of intellectual property management system certification awarded to Sinopec Engineering Incorporation

Case | Sinopec's S-MTO complete-set technologies went global for the first time

After overcoming various difficulties caused by the pandemic, Sinopec Engineering Incorporation, a member company of the Group, successfully won the bid for the patent of MTO unit in Uzbekistan's natural gas complex project in three months, marking that Sinopec's S-MTO (Methanol to Olefin) complete-set technology with independent intellectual property rights went global for the first time. At the same time, the successful bidding of the project has achieved the breakthrough of the Company in the Central Asian market, as well as the high-end development of the Company as a technology leader. It is of great significance to promoting the "going global" process of refining and chemical processes and engineering technologies and to improving the Company's international competitiveness.

Case | The Malaysia RAPID Residual Oil Hydrogenation Project earned high recognition

In October 2021, Sinopec Engineering Incorporation, a member company of the Group, completed the upgrading and reconstruction of the materials of the residue oil hydrogenation unit in the RAPID oil refining and chemical integration project invested and built by Petronas. Since the kickoff of construction, safety has always been put in the first place, and the safety production responsibility system effectively broken down and implemented, and the person responsible for safety specified to promote the effective fulfillment of safety responsibilities. In terms of environmental protection, based on the EIA report, the company formulated a number of environmental protection management rules and regulations and procedural documents to ensure compliance with laws and regulations. The project invited a third-party institution to carry out water quality and soil monitoring and noise monitoring; invited service providers to sort out and recycle garbage, and sprinkle water to remove dust; and compiled the monthly environmental monitoring report and submitted it to the proprietors and government departments for review. The compliance rate reached 100%.

Petronas highly recognized the project and commended Sinopec Engineering Incorporation for its accumulated 15 million safety man-hours.



Case | The first process module of the Canada-based LNG project realized high-quality delivery

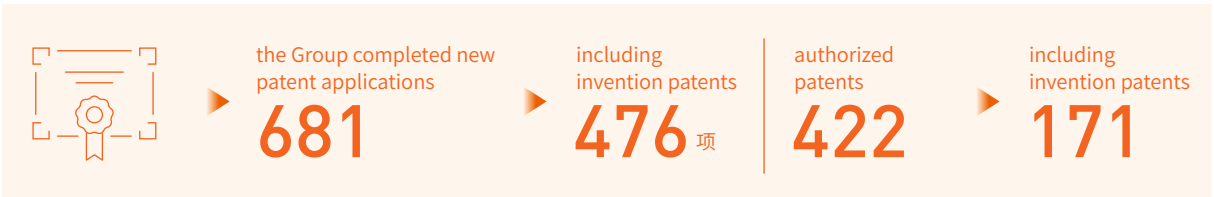
The Canada-based LNG project is another super-large LNG core process module construction project undertaken by China after the successful delivery of the world's first polar LNG Yamal project in 2017. During the reporting period, A5EA, the first process module of the Canada-based LNG project undertaken by Sinopec Fourth Construction Co., Ltd., a member company of the Group, was completed and delivered in Qingdao on time. It was the module of the Canada-based LNG project that started construction first, completed construction first and went to sea first. The realization of 420,000 safety man-hours marks the major progress of the world's first integrated LNG plant. China's LNG industry chain construction and service capability has reached the international leading level, and Sinopec Fourth Construction Co., Ltd. won the Canada-based LNG Project Outstanding Safety Contribution Award.

Safeguard clients' rights and interests

In accordance with the requirements of the *Contract Law of the People's Republic of China*, the Group never discloses the commercial secrets of the two parties to the contract, and keeps the technical secrets in accordance with the *Law of the People's Republic of China on Promoting the Transformation of Scientific and Technological Achievements* in terms of the transformation of scientific and technological achievements; in terms of advertising and use of labels, strictly abides by the *Advertising Law of the People's Republic of China* and the relevant laws and regulations of the place where the project is located, such as the *Commercial Information Law of the Kingdom of Saudi Arabia*, and provides clients with accurate and true information. In addition, in terms of brand building, the Group has formulated the *VI Manual and Instructions* to standardize the use of brand logos.

In terms of information security, the Company has formulated the *Management Regulations of Sinopec Engineering Group on Information Security*, the *Management Regulations of Sinopec Engineering Group on Protection of Network Security Levels*, the *Management Regulations of Sinopec Engineering Group on Information and Digitization* and the *Management Regulations of Sinopec Engineering Group on Computer Equipment*, requiring all file clients to use high-level document encryption measures to prevent data leakage. All equipment related to technology and sensitive information should adopt the management measures of closing U port and using encrypted U disk to improve the management level of information security and privacy protection.

During the reporting period, the Group completed 681 new patent applications, including 476 invention patents; 422 authorized patents, including 171 invention patents; 3,502 Chinese patents, including 1,281 invention patents; 20 technical standards for design and 30 technical standards for manufacturing. The patent "a condensing system and method for the evaporation of liquefied natural gas" won the China Excellent Patents Award.



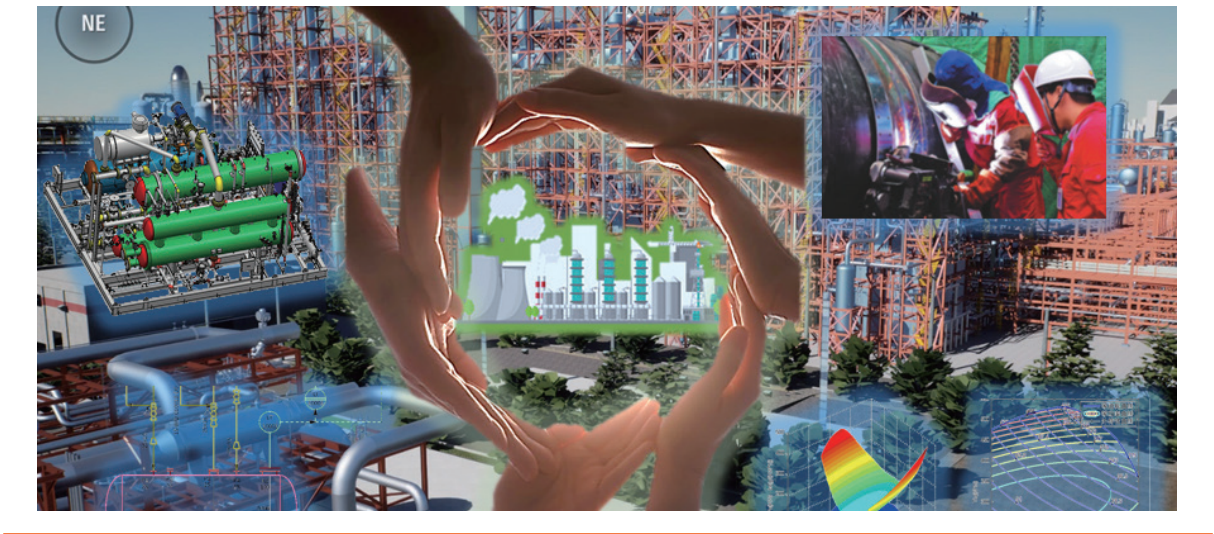
Advance digital transformation

The Group vigorously promotes digital transformation and intelligent upgrading. Relying on emerging technologies such as artificial intelligence (AI), big data, cloud computing and blockchain, and in accordance with the new model of "data + platform + application", we promoted the construction of networked, digital and intelligent platforms in a coordinated manner, realized the integration of digital technology and business management, strengthened the capacity building of modular design and modular construction, promoted the innovation of production organization methods and operation management models, realized the optimization of resource allocation, coordinated and efficient production, thus improving quality and efficiency and contributing to the green development of the enterprise.

During the reporting period, we deepened the application of digital engineering technology. We promoted the top-level design of refining and chemical engineering business domain in an orderly manner and implemented the work plan of "regional leader" responsibility system; and promoted integrated design, digital delivery, integrated project management and visual construction in an all-round way. The project "Construction and Implementation of Goal-oriented Intelligent Integrated Management System" won the first prize of Sinopec Management Modernization Innovation Achievements Award. New breakthroughs have been made in the application of engineering digital twin to smart factory, and nearly 30 digital delivery projects are underway.

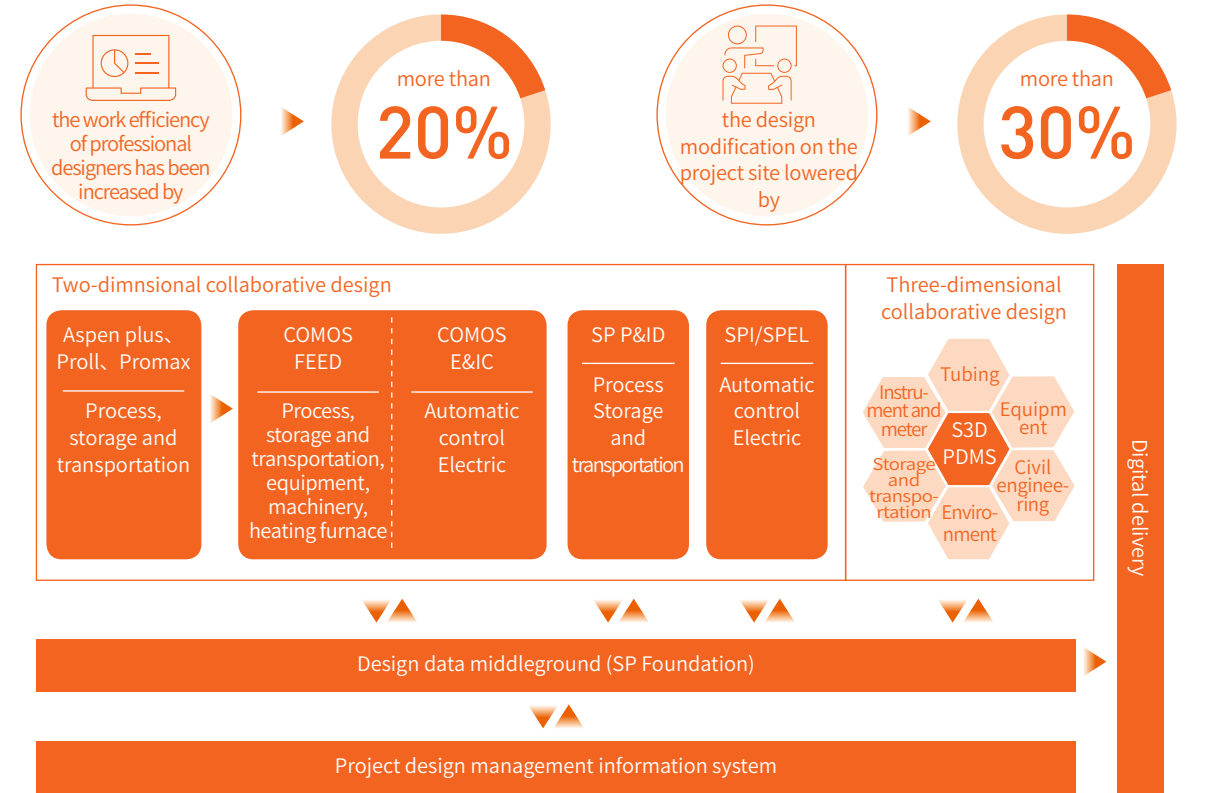
Case | Build an ecosystem of "digital construction of the whole life cycle of the project"

Relying on the projects of Zhongke, Zhongsha, Gulei, Zhenhai, etc., Sinopec Engineering Incorporation, a member company of the Group, applied digital technology in consulting, design, procurement, manufacturing, construction, delivery, operation and maintenance from the early planning and simulation stages, and worked with participants at all stages of construction to build the digital construction ecosystem of the whole life cycle of the factory. Accurate data services facilitated modular construction and intelligent construction, further reduced the consumption of construction materials and labor intensity and safety risks of on-site operations, and improved the construction environment. At the same time, the digital delivery successfully created the data base of the digital twin factory, reduced the construction cost of the smart factory of the production enterprise, and improved the safety, environmental protection, high efficiency and intelligent operation level of the factory.



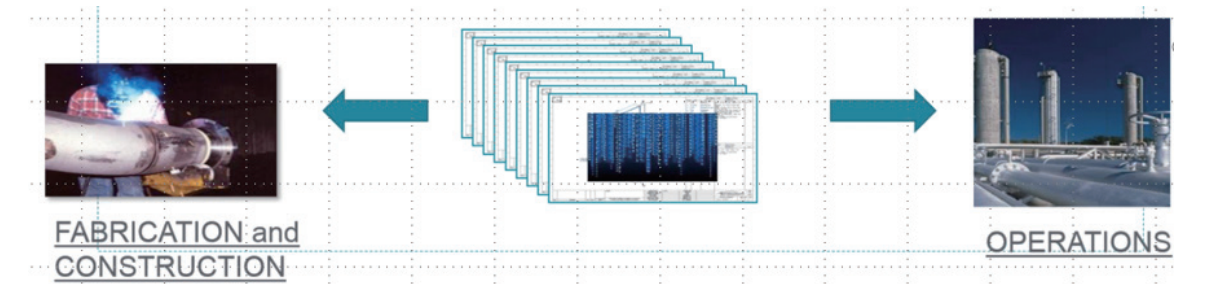
Case | The intelligent collaborative design platform effectively improves design efficiency

Guangzhou Engineering Co., Ltd., a member company of the Group, developed an intelligent collaborative design platform and successfully applied it. The platform has opened up cross-specialty data transmission, and improved the quality of 3D modeling. Through the application of visual model checking, collision inspection and optimization of design scheme, the efficiency of designing construction drawings has been substantially improved, with outstanding improvement in design quality, and the drawing depth and design quality improved. The work efficiency of professional designers has been increased by more than 20%, and the design modification on the project site lowered by more than 30%.



Case | Successfully apply the pipeline refined design model and contribute to the digital delivery of devices

In order to promote the modularization and prefabrication scale of pipeline installation in the construction site, and contribute to the digital delivery of devices, Sinopec Fifth Construction Co., Ltd., a member company of the Group, introduced the specialized software of pipeline refined design, and formed a dedicated refined design model to continuously accelerate the digital transformation. During the reporting period, the model was successfully applied in the 1 million tons/year ethylene and refinery reconstruction and expansion project of Sinopec Hainan Refining & Chemical Co., Ltd., and the refined design of 23,000 drawings on the site was completed in about 3 months, which not only ensured the construction progress, but also laid a solid data foundation for the digital delivery of devices.



Serve the Communities Wholeheartedly

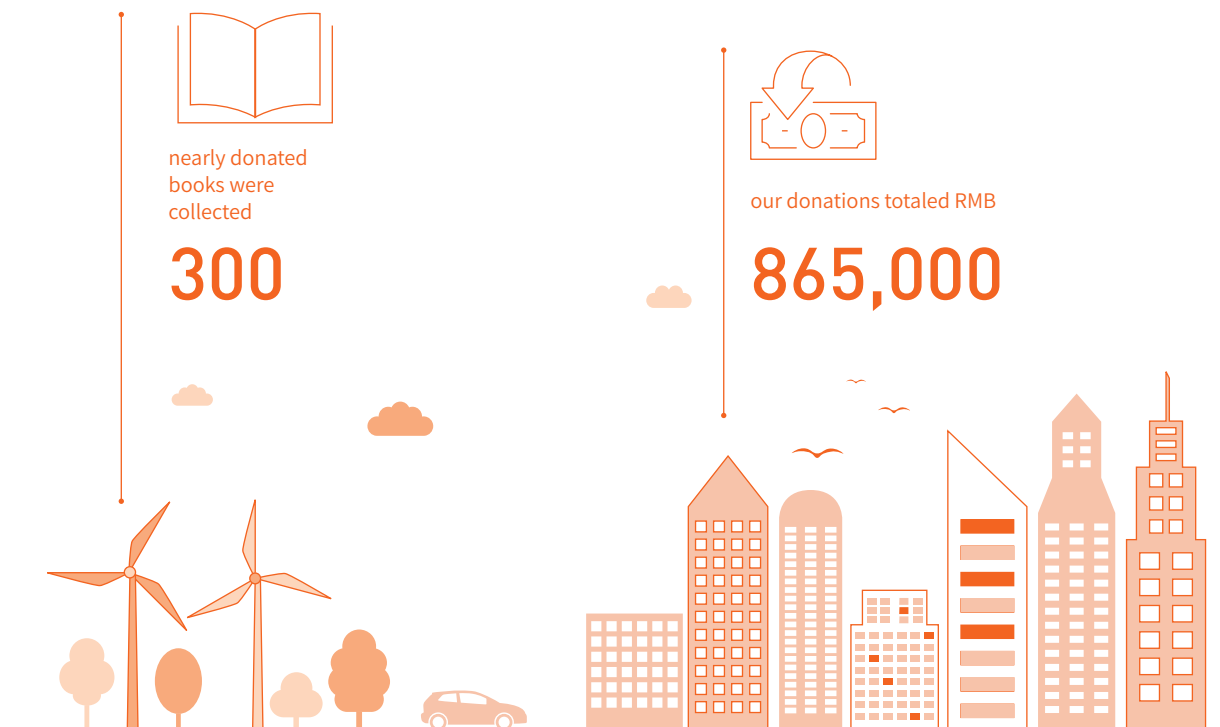
Always taking "benefiting from the society and repaying the society" as its starting point and finishing point, the Group actively fulfills the concept of a "Community of Shared Future for Mankind", adheres to repaying the society, gives full play to its own strengths, and participates in community construction to build and share harmonious communities.

We actively carry out consumption-based assistance and education-based assistance. When purchasing employee welfare products, as well as other goods given to help those in difficulties, we gave priority to purchasing rural revitalization products. We organized our employees to donate books to the Petrochemical Middle School in Dongxiang County, Gansu Province. Nearly 300 donated books were collected, making positive contributions to the economic development and educational revitalization of the rural revitalization areas.

We vigorously carry forward the volunteer spirit of "dedication, friendship, mutual assistance and progress", encourage employees to carry out volunteer services, and organize volunteers to go into communities, schools, and counties enjoying paired-up assistance in poverty alleviation so as to show love and pass on positive energy.

We systematically make donations to help those in need. Under the policy requirements of the Public Welfare Donation Law of the People's Republic of China, the Notice of the State-owned Assets Supervision and Administration Commission of the State Council on Strengthening the Administration of Donations by Central Enterprises, and the Supplementary Notice on the Administration of Donations by Central Enterprises, and in accordance with the Management Regulations of Sinopec Group on Donations, we have improved the Company's donation system, strengthened the management of donation projects, and strictly implemented the approval process of donations. During the reporting period, our donations totaled RMB 865,000, including supporting the reconstruction after the rainstorm in Henan and the development of education and medical care in rural revitalization areas. The project turned out to be quite fruitful, deepened the relationship between the enterprise and local governments.

At the project construction site, we gave priority to hiring local people, paid attention to training local employees and created more job opportunities for local residents. We respected the cultural customs and habits of residents in the business area, strictly implemented international conventions on environmental protection, protected the local environment, helped improve the living conditions of residents around the project, and built beautiful homes together with local residents.



Case | The "Simulation of Reality" Safety Education Base trains thousands of primary and middle school students for free every year

Actively assuming its social responsibilities, Sinopec Fifth Construction Co., Ltd., a member company of the Group, has worked with many local schools in Guangzhou, where the company is located, made full use of the resources of its own safety education base, and launched the "simulation of reality" safety education and learning activities, training thousands of primary and secondary school students for free every year, thus enhancing the safety awareness of the students.

Using modern technologies, the Base has developed and built five functional areas such as the Theoretical Training Area, the Hands-on Training Area and the Simulated Field Hands-on Training Area, involving more than 30 kinds of training modules, including high-altitude operations, hoisting, and confined space. Trainees can experience immersive education and training through physical operation and display, simulated field operation, accident experience, virtual simulation training and other methods, which further deepened their understanding of safety knowledge and helped them draw on lessons from accidents, thus improving their safety awareness, self-rescue skills.



Volunteers from Guangzhou Engineering Co., Ltd. carrying out loving activities in the primary school in Miaowan Village, Santun Town, Ruyang County



Nanjing Engineering Co., Ltd. carrying out voluntary activity to serve local people



Guangzhou Engineering Co., Ltd. organizing local calligraphers in Henan Province to go to counties enjoying paired-up assistance in poverty alleviation to contribute to the cultural revitalization in rural areas



The Kuwait Project Department of Sinopec Fourth Construction Co., Ltd. cleaning up the domestic garbage on the beach near the camps on weekends

Appendix

Paraphrasing

China Petrochemical Corporation: Sinopec Group
Sinopec: Sinopec Group and/or Sinopec Corp. and its subsidiaries and branches
The Company: Sinopec Engineering (Group) Co., Ltd.
The Group: the Company and its subsidiaries and branches
Engineering Incorporation Ltd.: SINOPEC Engineering Incorporation Ltd.
Guangzhou Engineering Co., Ltd.: Sinopec Guangzhou Engineering Co., Ltd.
Shanghai Engineering Co., Ltd.: Sinopec Shanghai Engineering Co., Ltd.
Ningbo Engineering Co., Ltd.: Sinopec Ningbo Engineering Co., Ltd.
Nanjing Engineering Co., Ltd.: Sinopec Nanjing Engineering Co., Ltd.
Fourth Construction Co., Ltd.: Sinopec Fourth Construction Co., Ltd.
Fifth Construction Co., Ltd.: Sinopec Fifth Construction Co., Ltd.
Tenth Construction Co., Ltd.: Sinopec Tenth Construction Co., Ltd.
Heavy Lifting and Transportation Co., Ltd.: SINOPEC Heavy Lifting & Transportation Co., Ltd.
Energy Management Co., Ltd.: SINOPEC Energy Management Technology Service Co., Ltd.
R&D Center: Luoyang R&D Center of SINOPEC Engineering (Group) Co., Ltd.
ITC Center: Information Technology Branch of Sinopec Engineering (Group) Co., Ltd.

Key Performance

Environmental performance

Greenhouse gas emissions

Indicator	Unit	2021	2020	2019
Total greenhouse gas emissions	Ton CO ₂ e	111,873.76	115,798.39	179,010.08
Scope 1 of the total amount of greenhouse gas emissions	Ton CO ₂ e	46,848.89	52,728.27	116,439.97
Scope 2 of the total amount of greenhouse gas emissions	Ton CO ₂ e	65,024.87	63,070.12	62,570.11
Per unit revenue of greenhouse gas emissions	Ton CO ₂ e/RMB 100 million	193.69	221.19	342.53

Energy and resource consumption

Indicator	Unit	2021	2020	2019
Diesel consumption	Ton	9,425.57	10,566.18	20,737.24
Gasoline consumption	Ton	3,337.56	3,032.37	7,118.00
Natural gas consumption	Cubic meter	455,314.89	325,463.98	499,126.44
Liquefied petroleum gas consumption	Ton	337.42	1,711.38	5,681.15
Acetylene consumption	Ton	2,473.22	1,423.87	3,250.89
Propane consumption	Ton	304.00	132.35	77.41
Net purchased power consumption	Megawatt hour	95,247.97	92,107.93	95,976.68
Net purchased heat consumption	Megajoule	63,833.22	63,830.09	26,768.75
Total amount of comprehensive energy consumption converted into standard coal	Ton of standard coal	51,006.33	47,360.45	87,727.35
Per unit revenue of comprehensive energy consumption	Ton of standard coal/RMB 100 million	88.31	90.46	167.86
Total consumption of water resources	Ton	6,226,047.49	5,129,561.71	3,827,827.58
Consumption density of water resources	Ton/RMB 100 million	10,779.17	9,798.03	7,324.44

Social performance

Employment

Indicator	Unit	2021	2020	2019
Number of employees	/	16,973	17,301	17,450
Of which: domestic employees	/	16,428	16,778	16,728
Overseas employees	/	545	523	722
Of which: male employees	/	12,436	12,698	12,762
Female employees	/	4,537	4,603	4,688
Of which: number of employees aged 30 and below	/	1,995	1,955	1,706
Number of employees aged 31-50	/	10,191	10,846	11,407
Number of employees aged 51 and above	/	4,787	4,500	4,337
Of which: people with a Master's degree	/	2,987	2,798	2,531
People with a Bachelor's degree	/	7,807	7,930	7,817
People with a junior college degree	/	2,849	2,928	3,021
People with other academic degrees	/	3,330	3,645	4,081
Number of employed persons during the reporting period	/	507	743	354

Occupational health and safety

Indicator	Unit	2021	2020	2019
Number of regular employees injured at work	/	0	3	1
Number of regular employees killed at work	/	0	0	0
Proportion of regular employees killed at work	%	0	0	0

Sewage and waste discharge

Indicator	Unit	2021	2020	2019
Amount of hazardous waste produced	Ton	982.64	879.10	1,336.62
Discharge density of hazardous waste	Ton/RMB 100 million	1.70	1.68	2.56
Treatment rate of hazardous waste	%	100	100	100
Amount of harmless waste produced	Ton	51,314.78	62,267.67	64,405.38
Discharge density of harmless waste	Ton/RMB 100 million	88.84	118.94	123.24
Treatment rate of harmless waste	%	100	100	100
Total amount of sewage produced	Ton	2,504,743.07	4,338,861.09	3,387,082.81
Density of sewage produced	Ton/RMB 100 million	4,336.47	8,287.70	6,481.09

Supply chain

Indicator	Unit	2021	2020	2019
Number of suppliers who have passed qualification examination	/	3,041	2,956	2,875
Number of contractors/subcontractors passing environmental management system certification	/	596	553	511
Proportion (%) of contractors/subcontractors passing environmental management system certification	%	100	100	100
Number of contractors/subcontractors passing quality management system certification	/	596	553	511
Proportion (%) of contractors/subcontractors passing quality management system certification	%	100	100	100
Number of contractors/subcontractors passing occupational health safety management system certification	/	596	553	511
Proportion (%) of contractors/subcontractors passing occupational health safety management system certification	%	100	100	100

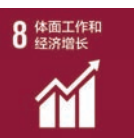
Employees' training

Indicator	Unit	2021	2020	2019
Vocational training input	RMB 10,000	4,336	3,684	4,396
Total length of employee vocational training	10,000 hours	83	88	87
Average length of employee occupational training	Hour	49	51	50
Total number of employees participating in training	/	35,898	36,555	42,029

Public welfare

Indicator	Unit	2021	2020	2019
Total amount of donations	RMB 10,000	81.5	115	310

In Support of SDGs

SDGs	Our action
1 无贫穷 	Carry out precise poverty alleviation, and help poverty-stricken areas such as Dongxiang Autonomous County in Gansu Province and Ruyang in Henan Province improve their living standards through industry-based poverty alleviation, consumption-based poverty alleviation, education- and culture-based poverty alleviation, infrastructure-based poverty alleviation and medical-based poverty alleviation.
2 零饥饿 	Improve rural infrastructure such as water and roads, and carry out poverty alleviation projects such as planting, breeding, processing, and online and offline sales based on Dongxiang's natural conditions.
3 良好健康与福祉 	Ensure employees'occupational health, physical health and mental health, develop a mental health consultation platform, set up health clinics at the construction site of the project, and provide necessary emergency medical equipment and medicines.
4 优质教育 	Carry out vocational skills training for employees; give support to the building of schools, provide teaching materials and improve the teaching environment in poverty-stricken areas.
5 性别平等 	Observe the principle of gender equality, set up the women workers'committee, and pay attention to the physical and mental health and career development of female employees.
6 清洁饮水和卫生设施 	Develop the technology of comprehensive utilization of wastewater to improve the utilization rate of water resources; build safe water drinking projects in poverty-stricken areas.
7 经济适用的清洁能源 	Eliminate coal-fired facilities and adopt clean gas; develop clean energy technologies.
8 体面工作和经济增长 	Provide employees with stable job opportunities, income and working environment; contribute to the local economic development by making investment, paying taxes and providing job opportunities.
9 产业、创新和基础设施 	Increase input in scientific research and promote the industrial application of new technologies, new equipment and new materials.

In Support of SDGs

SDGs	Our action
10 减少不平等	Child labor and forced labor are prohibited, and no form of discrimination such as gender, religion and nationality is allowed.
11 可持续城市和社区	Improve rural infrastructure conditions; actively participate in community anti-pandemic activities at home and abroad and promote social welfare undertakings.
12 负责任消费和生产	Implement the responsibility management of suppliers and subcontractors; purchase energy-saving and environment-friendly products.
13 气候行动	Develop low-carbon environment-friendly technology to contribute to the clean transformation of the industry; implement digital projects and promote the intelligent transformation of petrochemical industry.
14 水下生物	Pay attention to the environmental protection around the project. Construction projects involving rivers, lakes and seas should avoid ecologically sensitive seasons such as fish breeding seasons and migration seasons.
15 陆地生物	Adjust the construction time and method of engineering construction, and pay attention to biodiversity protection.
16 和平、正义与强大机构	Observe business ethics, promote transparent procurement and implement anti-corruption measures.
17 促进目标实现的伙伴关系	Strengthen cooperation with institutions and research institutes at home and abroad, and implement the "Belt and Road" strategy.

ESG-GRI Index

Classification	SEHK	GRI	Disclosure Media
A1 Emissions	General disclosure Those involve the emission of waste gases and greenhouse gases, the discharge of pollutants into water and land, and the generation of hazardous and harmless wastes: (a) Policies; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer.		37
	A1.1 Type of emissions and relevant emission data.		38
	A1.2 Total emissions (ton) and density (if applicable) (calculated on basis of each generation unit or each facility) of greenhouse gases directly generated (Range 1) and indirectly generated by energy (Range 2).	302-1、302-3、302-4、302-5、305-7、306-1、306-2	38
	A1.3 Total amount (ton) and density (if applicable) (calculated on basis of each generation unit and each facility) of hazardous wastes.		38
	A1.4 Total amount (ton) and density (if applicable) (calculated on basis of each generation unit and each facility) of non-hazardous wastes.		38
	A1.5 Description of the emission targets set and steps taken to achieve them.		37
A2 Use of resources	A1.6 Description of measures of disposing of hazardous and non-hazardous wastes, and description of the waste reduction goals established and steps taken to achieve them.		37
	General disclosure Policies of effective use of resources (including energy, water and other raw materials).		42
	A2.1 Total consumption (in 1,000 kwh) and density (calculated on basis of each generation unit or each facility) of direct and/or indirect energy by type (e.g. electricity, gas or oil).		43
	A2.2 Total water consumption and density (calculated on basis of each generation unit or each facility).	302-1、302-3、302-4、302-5、305-7、306-1、306-2	43
	A2.3 Description of benefit goals of use of energy established and steps taken to achieve them.		42-43
	A2.4 Description of any problem in gaining applicable water sources, benefit goals of use of energy established and steps taken to achieve them.		42-43
A3 Environment and natural resources	A2.5 Total amount (ton) of packaging materials used for finished goods and amount per generation unit (if applicable).		N/N
	General disclosure Policies on reduction of significant impacts caused by the issuer on the environment and natural resources.	303-1、303-2、303-3、304-1、304-2、304-3、304-4	34
A4 Climate change	A3.1 Description of significant impacts of business activities on the environment and natural resources, and actions that have been taken on control of relevant impacts.		32-36
	General disclosure Policies for identifying and coping with major climate-related issues that have and may have an impact on the issuer.	305-1、305-2、305-3、305-4、305-5	46
	A4.1 Description of major climate-related issues that have and may have an impact on the issuer and the response actions.		46-47

Classification	SEHK	GRI	Disclosure Media
B1 Employment and labour conventions	General disclosure Those involve remuneration and dismissal, recruitment and promotion, working hours, holidays, equal opportunities, diversity, anti-discrimination and other treatment and benefits: (a) Policies; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer.	102-8、102-41、401-1、401-2、401-3、404-1、404-2、405-1、403-2、403-3、403-4	50
	B1.1 Total numbers of staff by sex, type of employment (such as full-time or part-time), age and region.		51
	B1.2 Loss rates of employees by sex, age and region.		51
B2 Health and safety	General disclosure Those involve access to a safe working environment and protection of staff from occupational hazards: (a) Policies; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer.		57, 63-64
	B2.1 Number and ratio of deaths due to work in the past three years (including the reporting year).	403-4、416-1	66
	B2.2 Number of working days lost due to work injury.		66
	B2.3 Description of occupational health and safety measures adopted, and corresponding implementation and inspection methods.		57-67
B3 Development and training	General disclosure Policies for improving staff's knowledge and professional skills in performing their duties. Description of training activities.		50
	B3.1 Proportion of employees to be trained by sex and type (e.g. senior management, middle management).	403-4	55
	B3.2 Average hours for completion of training for each employee by sex and type.		55
B4 Labour standard	General disclosure Those involve prevention of child labour or forced labour: (a) Policies; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer.	102-8、102-41、401-1、401-2、401-3	50
	B4.1 Description of measures for review of recruitment practices to prevent child and forced labour.		50
	B4.2 Description of steps taken to eliminate any breach of regulation discovered.		50
B5 Supply chain management	General disclosure Environmental and social risk policies for managing supply chains.		68
	B5.1 Number of suppliers by region.		68
	B5.2 Description of customary practices on employment of suppliers, number of suppliers subject to practices and corresponding implementation and inspection methods.	102-9、308-1、308-2、414-1、414-2	68
	B5.3 Description of customary practices on identification of environmental and social risk in each link of the supply chain, and corresponding implementation and inspection methods.		68
	B5.4 Description of customary practices on promoting the use of environmentally friendly products and services in priority at the time of selecting suppliers, and corresponding implementation and inspection methods.		68

Classification	SEHK	GRI	Disclosure Media
B6 Product responsibility	General disclosure Those involve health and safety, advertising, labelling and privacy and remedies of products and services provided: (a) Policies; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer.		72
	B6.1 Percentage of products to be recycled due to safety and health matters in all products that have been sold or delivered.		N/N
	B6.2 Number of complaints received about products and services and corresponding responses.	102-17	73-74
	B6.3 Description of customary practices on safeguarding and protecting intellectual property rights.		77-78
	B6.4 Description of quality inspection procedures and product recycling process.		73
B7 Anti-corruption	B6.5 Description of protection of consumers' information and privacy policies, and corresponding implementation and inspection methods.		76
	General disclosure Those involve the prevention of bribery, extortion, fraud and money laundering: (a) Policies; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer.		23
	B7.1 Number of corruption lawsuit cases against the issuer or its employees during the Reporting Period that have been prosecuted and closed and the lawsuit results.	102-12、102-15、102-17、102-30、103-2、205-2、205-3、412-2、415-1	23
	B7.2 Description of preventive measures and reporting procedures, and corresponding implementation and inspection methods.		24
	B7.3 Description of anti-corruption trainings provided for directors and employees.		23-24
B8 Community investment	General disclosure Policies for understanding the needs of the community under operation and ensuring the interests of the community taken into consideration in its business activities through community participation.		80
	B8.1 Category of devotion and contribution (e.g. education, environmental matters, labour demands, health, culture and sports).	413-1	80
	B8.2 Resources used for category of devotion (e.g. money or time).		80

TCFD Framework Content Index

TCFD-suggested disclosure content		Disclosure media
Governance: Disclosure of the governance of the organization related to climate-related risks and opportunities		
a	Description of the Board's monitoring of climate-related risks and opportunities	5、 46
b	Description of the responsibilities of the management in assessing and managing climate-related risks and opportunities	22、 46
Strategy: Disclosure of the actual and potential impacts of climate-related risks and opportunities on the business, strategy and financial planning of the organization		
a	Description of the organization's identification of climate-related risks and opportunities in the short, medium and long term.	8、 46
b	Description of the impact of climate-related risks and opportunities on the business, strategy and finance of the organization	46
c	Description of the strategic adaptability of the organization and consideration of different climate-related scenarios	-
Risk management: Disclosure of how the organization identifies, assesses and manages climate-related risks		
a	Description of the organization's process of identifying and assessing climate-related risks	22、 27、 46
b	Description of the organization's process of managing climate-related risks	22、 27、 46
c	Description of how the process of identifying, assessing and managing climate-related risks integrates with the overall risk management of the organization	22、 27
Strategy: Disclosure of the actual and potential impacts of climate-related risks and opportunities on the business, strategy and financial planning of the organization		
a	Indicators and targets: Disclosure of the indicators and targets used in assessing and managing climate-related risks and opportunities	83-84
b	Disclosure of greenhouse gas emissions and related risks in Range 1, Range 2 and Range 3 (if applicable)	37
c	Description of the objectives used by the organization in managing climate-related risks and opportunities, as well as the fulfillment of the objectives	8、 37-47

Reader's Feedback Form

Thank you for reading the Group's Environmental, Social and Governance Report for the year of 2020. To strengthen communication with you and other stakeholders and continuously improve the Group's performance of environmental and social responsibility as well as preparation of social responsibility reports, we would appreciate it if you share your opinions and suggestions with us. Look forward to your feedback in the following methods:

Tel.:

E-mail

Mailing address:

Zip code:

Contact person:

Please fill in this feedback survey of this Report:

1. What is your overall evaluation?

☐ Excellent ☐ Good ☐ Fair ☐ Bad

2. What is your impression on the clarity, accuracy and completeness of the information and data?

☐ Excellent ☐ Good ☐ Fair ☐ Bad

3. What is your impression on the comprehensiveness of the economic responsibility undertaken by the Group?

☐ Excellent ☐ Good ☐ Fair ☐ Bad

4. What is your impression on the comprehensiveness of the environmental responsibility undertaken by the Group?

☐ Excellent ☐ Good ☐ Fair ☐ Bad

5. What is your impression on the comprehensiveness of the social responsibility undertaken by the Group?

☐ Excellent ☐ Good ☐ Fair ☐ Bad

6. What is your impression on the convenience of the design and typesetting?

☐ Excellent ☐ Good ☐ Fair ☐ Bad

7. Which part needs improvement most?

☐ Governance ☐ Safety ☐ Service ☐ Supply Chains ☐ Staff ☐ Environment ☐ Society

8. Is there any content that you are interested in but has not been disclosed yet? Please write it down here if there is any:

9. Comments and suggestions on the Group's social responsibility and report preparation:

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