



中国石化
SINOPEC



2022

Sinopec Corp.

Sustainability Report

Cleaner Energy Better Life

Report Information

The 2022 sustainability report (hereinafter referred to "SR") is the 17th sustainability report of China Petroleum & Chemical Corporation (hereinafter referred to as "Sinopec Corp.", "the Company" or "We"). The report introduces our sustainability philosophy and policies and our environmental protection, social responsibility, and corporate governance (hereinafter referred to as "ESG") performances in 2022, and highlights on how we responded to the expectations and concerns of our stakeholders.

Report Perimeters

This report covers our business activities from 1 January to 31 December 2022, with some content from beyond this time span for continuity reasons. The information herein comes from internal data and relevant public information. Unless otherwise specified, all monetary figures shown in this SR are expressed in RMB (yuan).

Unless otherwise specified, the data in this SR covers the data of Sinopec Corp. and its wholly-owned and controlled subsidiaries.

The Company's Board of Directors reviewed and approved this report on 24 March 2023. The report is available in Chinese and English versions, and the Chinese version shall prevail in case of any conflict or inconsistency. The report can be downloaded at the website: <http://www.sinopec.com/listco/en>.

References

This report is prepared in accordance with the *Guideline for the Self-Regulatory Supervision of Listed Companies of Shanghai Stock Exchange (SSE) No. 1 - Standardised Operation, the Environmental, Social and Governance Reporting Guide* issued by Hong Kong Stock Exchange (HKEX), Ten Principles of the United Nations Global Compact (UNGC), and the criteria of the Global Compact Advanced Communication on Progress, and with reference to the *recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)*, the *2021 GRI Universal Standards (GRI Standards)* and *GRI 11: Oil and Gas Sector 2021* issued by the GRI Global Sustainability Standards Board (GSSB).

Disclaimer

This report includes certain forward-looking statements with respect to the results of our business operations and certain plans and conditions. All statements that address activities, events or developments that we expect will or may occur in the future, other than statements of historical fact, are forward-looking statements and by their nature involve risk and uncertainty. This means that actual results may differ materially from those indicated in the forward-looking statement due to a number of factors and uncertainties. The forward-looking statements are made by 24 March 2023 and the Company undertakes no obligation to update these forward-looking statements unless required by an appropriate regulatory authority.

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Letter from Chairman



Dear Friends,

On behalf of the Board of Sinopec Corp., I would like to express our sincere gratitude for your continued attention and support!

Sustainable development is a "golden key" to addressing the current global challenges. ESG, as a tangible manifestation of a company's development philosophy at the micro-level, aligns closely with the Chinese government's fundamental principles of high-quality development and harmonious coexistence between man and nature. Strengthening ESG governance is a crucial step in fully and accurately executing the new development concept and an inherent necessity for promoting high-quality economic and social growth.

As we navigate through the complex challenges of geopolitical conflicts, energy security, and climate change in 2022, Sinopec Corp. - an integrated energy and chemical company and a LEAD member of the United Nations Global Compact - is resolutely committed to sustainable, low-carbon, safe, and responsible development. We have fully integrated environmental, social, and governance (ESG) considerations into our corporate operations and development strategies. In the past year, we have made significant progress in strengthening corporate governance, ensuring a secure and stable energy supply, promoting green and low-carbon development, driving technological innovation, enhancing safety management, and fulfilling social responsibility.

We strive to improve our corporate governance. The Board of Directors is wholly dedicated to enhancing strategic planning and has thoroughly deliberated and approved the Company's medium and long-term development plans. Our independent directors have carried out their duties and offered valuable suggestions for corporate reform and development. We have revised multiple governance policies to consolidate the institutional foundation for standardised governance and deepened the construction of internal control system to continuously improve its effectiveness. For the first time, we repurchased shares both domestically and overseas to increase our value and shareholder returns. We deeply promoted the "Demonstration Action for Scientific and Technological Reform" to stimulate the impetus and vitality of technological innovation. We have formulated and implemented the *Sinopec Medium and Long-term Talent Development Plan in the 14th Five-Year Plan Period* to build a team of high-quality and professional talent. We carried out regular audits and supervision to strengthen anti-corruption and continuously enhance our compliance management.

We strive to ensure a secure and stable supply of energy. Regarding upstream oil and gas exploration and production, we have improved our reserve capacity, stabilised oil and gas production, and reduced costs. We have also increased investment in oil and gas exploration and production, achieving new domestic oil and

gas production records, reaching a reserve-replacement ratio of 165%, and ensuring natural gas supply for the warmth of millions of households during the heating season. Regarding oil refining and marketing, we have supplied cleaner VIB refined oils and ensured stable supply of refined oil products. We are actively promoting the development of the domestic hydrogen energy industrial chain, ranking the first globally in terms of hydrogen refuelling stations in operation and under construction. We have accelerated the development of charging and battery replacement infrastructure and built over 1,000 charging and battery replacement refuelling stations. Our business in wind power, photovoltaic, and other sectors also developing well, and our bio-jet fuel business has achieved large-scale production and application.

We strive to improve our green and low-carbon competitiveness. We are committed to promoting carbon peaking and carbon neutrality in an integrated and orderly manner with the launching and implementation of the Action Plan for Carbon Dioxide Peaking Before 2030. Adhering to the principle of "reducing carbon emissions of existing energy consumption, lowering carbon emissions of energy consumption increment, seeking zero carbon emissions, and developing carbon-negative technologies", we have completed and put into operation China's first million-tonne CCUS demonstration project. This achievement has made Sinopec Corp. a technology company with a complete carbon-related industrial chain. We have comprehensively strengthened our environmental compliance management, established a supervision mechanism for ecological and environmental protection, and conducted environmental compliance verification of construction projects. We have continued to deepen pollution prevention and control actions and effectively implemented our "Green Enterprise Campaign". We promoted the protection and restoration of major ecosystems and launched the Sinopec Saihanba Ecological Demonstration Forest Project.

We strive to strengthen technological innovation. We have accelerated the cultivation of innovative enterprises, continuously strengthened the whole-process innovation from basic research to industrial application, and achieved numerous key innovation results. We have made significant breakthroughs in key technologies such as large tow carbon fibre and high-gauge polybutene-1, and new progress in major technologies including the exploration and development of ultra-deep oil/gas, direct crude oil cracking for producing ethylene, and special rubber. We actively promoted digital transformation and enhanced the digitalisation and intelligentisation of our business via demonstration projects such as "Industrial Internet +".

We strive to build a solid line of defence for safety. In response to the once-severe situation of safety production, we took decisive

measures to strengthen hazard inspection and rectification while increasing supervision on key links. These actions were instrumental in effectively reversing the negative situation. We strengthened the implementation of safety responsibilities, promoted the efficiency of the HSE system, and strengthened emergency management, thereby improving our emergency response capacity. By optimising the allocation of safety equipment and improving the working environment, we have consolidated the foundation of occupational health management, effectively ensuring the physical and mental well-being of our employees.

We strive to fulfil social responsibility. We have made every effort to ensure the supply of petroleum and petrochemical products, maintaining the stability of our industrial chain and supply chain. Our performance in serving the Beijing Winter Olympic Games and the Winter Paralympic Games was highly recognised by all parties. We actively explored distinctive modes of rural revitalisation to promote industrial development with marketing support, boost revitalisation by industry, and enhance rural development through education. During the emergency rescue and disaster relief tasks, we always took promotive actions and donated funds and relief supplies. We further implemented public welfare and charity projects such as "Spring Bud Gas Station Programme", "Driver's Home Programme" and "Warm Stations Programme", and conducted international business with the concept of "paying back to the local communities and contributing to the local economy", and continued to improve our image as a responsible international company.

Looking ahead to 2023, Sinopec Corp. is determined to accelerate to become a world-leading company, further integrate ESG into all aspects of corporate strategic planning, production and operation, strengthen the top-level design of ESG governance, and consolidate its management foundation, actively participating in the construction of China's ESG ecosystem. We hope to work with stakeholders to promote sustainable development, enter a new stage of high-quality development, and confidently write a new chapter of Sinopec following the Chinese path to modernisation.

We cherish your valuable suggestions for the Company's sustainable development and look forward to joining hands with you to build a better life and create a brighter future!

Ma Yongsheng,
Chairman
March 24, 2023

Board's Statement on ESG Governance

The Company's Board of Directors made the following statement in accordance with the requirements of the *Environmental, Social and Governance Reporting Guidelines* of the Stock Exchange of Hong Kong Limited (hereinafter referred to as the "Hong Kong Stock Exchange").

The Board of the Company promises that the Company and its Board of Directors strive to follow the *Requirements of the Guidelines for the Governance of Listed Companies* issued by the China Securities Regulatory Commission, and the *Environmental, Social and Governance Reporting Guidelines* issued by Hong Kong Stock Exchange, and continuously optimise its environmental, social and corporate governance mechanism. We will further strengthen the Board's role in supervising and participation in ESG related issues, and vigorously integrate ESG considerations into the Company's major decision-making processes and various business practices.

Board's Role in ESG Governance

The Board of Directors is the highest responsibility and decision-making agency, bearing the ultimate responsibility for Sinopec Corp.'s ESG governance. The Sustainability Committee under the Board of Directors is responsible for overseeing and deliberating the implementation and progress of the Company's sustainability and ESG strategies and plans; overseeing the commitments and performances of the Company on key ESG issues such as climate change, environmental protection and compliance management; overseeing key information regarding sustainability issues related to the Company's businesses and approving the Company's annual

sustainability reports; 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 Sustainability Committee is composed of four directors, including one independent director, with Chairman of the Board serves as the chairperson of the Committee. The 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 Strategy and Policy

The Company attaches great importance to ESG management, adheres to the development concept of "innovation, coordination, green, open, and sharing", and deeply implements development strategies of "value-leading, market-oriented, innovation-driven, green and clean, open and cooperation, and talents to revitalise the enterprise". The Company analyses ESG-related risks and opportunities in the context of macro policies, socio-economic

environment, and the strategy, production and operation, and stakeholder engagement of the Company. It also carries out materiality analysis by conducting stakeholder research and expert consultation, to identify key ESG issues for the Company's development, continuously optimise its ESG governance and risk control, and improve the overall ESG management level.

Targets, Indicators and Review of Progresses

The Company has established an ESG target management mechanism, and set up ESG performance targets in its development plans and key tasks, such as clean energy, climate change, environmental protection, resource utilisation, safe production management, occupational health and safety, anti-corruption and compliance, etc. The Sustainability Committee regularly reviews the progress of the targets and reports it to the Board of Directors. To ensure the achievement of these targets,

the Company signs annual performance commitment documents with management staff and subsidiaries to integrate part of key ESG performance indicators as the KPIs for key management staff. To ensure the reliability of our ESG performance indicators, the Company hired KPMG Hua Zhen LLP to conduct an independent assurance of the Sinopec Corp. 2022 Sustainability Report, and issue independent assurance opinions regarding 18 ESG performance indicators of the Company.

China Petroleum & Chemical Corporation Board of Directors
March 24, 2023

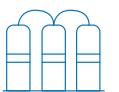
About Us

Sinopec Corp. was established on February 25 in 2000, listed in the Hong Kong Stock Exchange, New York Stock Exchange and London Stock Exchange in October 2000 and the Shanghai Stock Exchange in August 2001. Sinopec Corp. is one of the largest integrated energy and chemical companies in China, with its business scope all over the world, mainly including oil and gas exploration and production, oil refining, oil sales and chemical industry. It is a large oil and gas and petrochemical product manufacturer in China and has a complete sales network of refined oil and chemical products in China.



Exploration and Production

- Sinopec Corp.'s main oil and gas assets are located in China. We only participate in four joint projects overseas, including UDM in Russia, Block 18 in Angola, CIR in Kazakhstan, and Mansarovar in Colombia respectively, and there is not any other oil and gas assets overseas.
- In 2022, Sinopec Corp.'s crude oil production was 280.86 million barrels and natural gas production was 1,248.75 billion cubic feet.



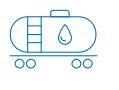
Refining

- Sinopec Corp.'s primary refining facilities are located in China. Overseas, we hold shares in a refining joint venture project in Yanbu, Saudi Arabia.
- In 2022, Sinopec Corp. processed 242.27 million tonnes of crude oil and produced 140.15 million tonnes of refined oil products.



Marketing and Distribution

- Sinopec Corp. has a well-established marketing network for refined oil products in China, with 30,808 service stations.
- Sinopec Corp. sold a total of 206.74 million tonnes of refined oil products in 2022.



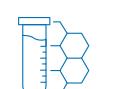
Chemicals

- Sinopec Corp.'s primary chemical production facilities are located in China, producing synthetic resin, synthetic fibre, synthetic rubber, basic organic chemicals and other petrochemical products. The only overseas projects include the Sibul project and the Amur project under construction.
- In 2022, Sinopec Corp. produced 13.44 million tonnes of ethylene.



International Trade

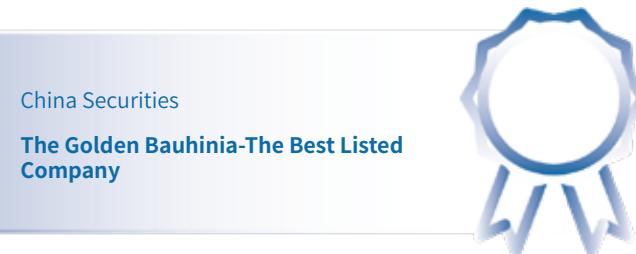
- Sinopec Corp. is an important trader of crude oil in China, engaging in the international trade of crude oil, refined oil products and chemical products.



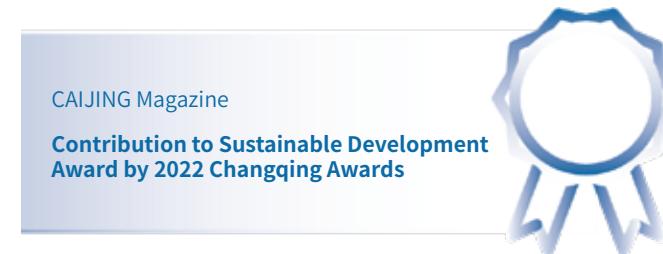
Technology R&D

- We have four State Key Laboratories, five National Engineering Research Centres, a National-Provincial Joint Engineering Research Centre, a National Engineering Lab, four National Energy R&D (Experiment) Centres, a National Testing and Evaluation Platform, and two State-Certified Enterprise Technology Centres.
- As of the end of 2022, Sinopec Corp. had been granted 49,852 patents cumulatively, of which 6,289 were granted within the year.

Recognition and Awards



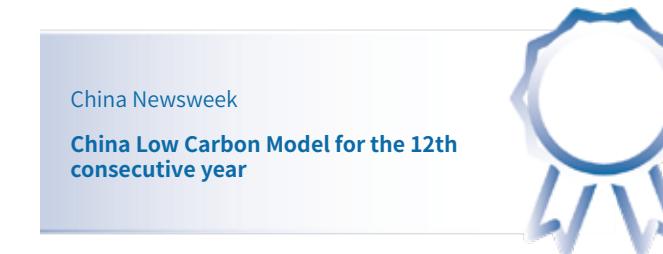
China Securities
The Golden Bauhinia-The Best Listed Company



CAIJING Magazine
Contribution to Sustainable Development Award by 2022 Changqing Awards



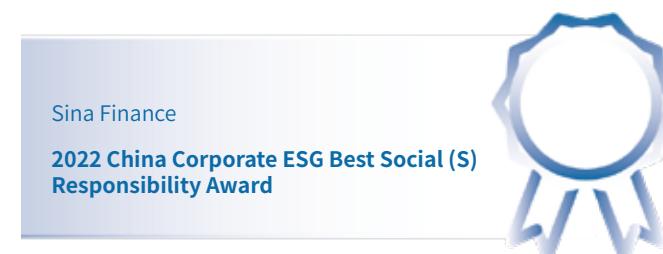
China Newsweek
Responsible Enterprise in 2022
The only Chinese central state-owned enterprise that has won this honour for 12 consecutive years



China Newsweek
China Low Carbon Model for the 12th consecutive year



International Association for Continuing Engineering Education (IACEE)
The 2022 Corporate Leadership Award



Sina Finance
2022 China Corporate ESG Best Social (S) Responsibility Award



China Social Responsibility 100 Forum
Chinese Central State-owned Enterprises ESG · Pioneer 50
Chinese Central State-owned Enterprises Responsibility Management · Pioneer 30



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Corporate Governance

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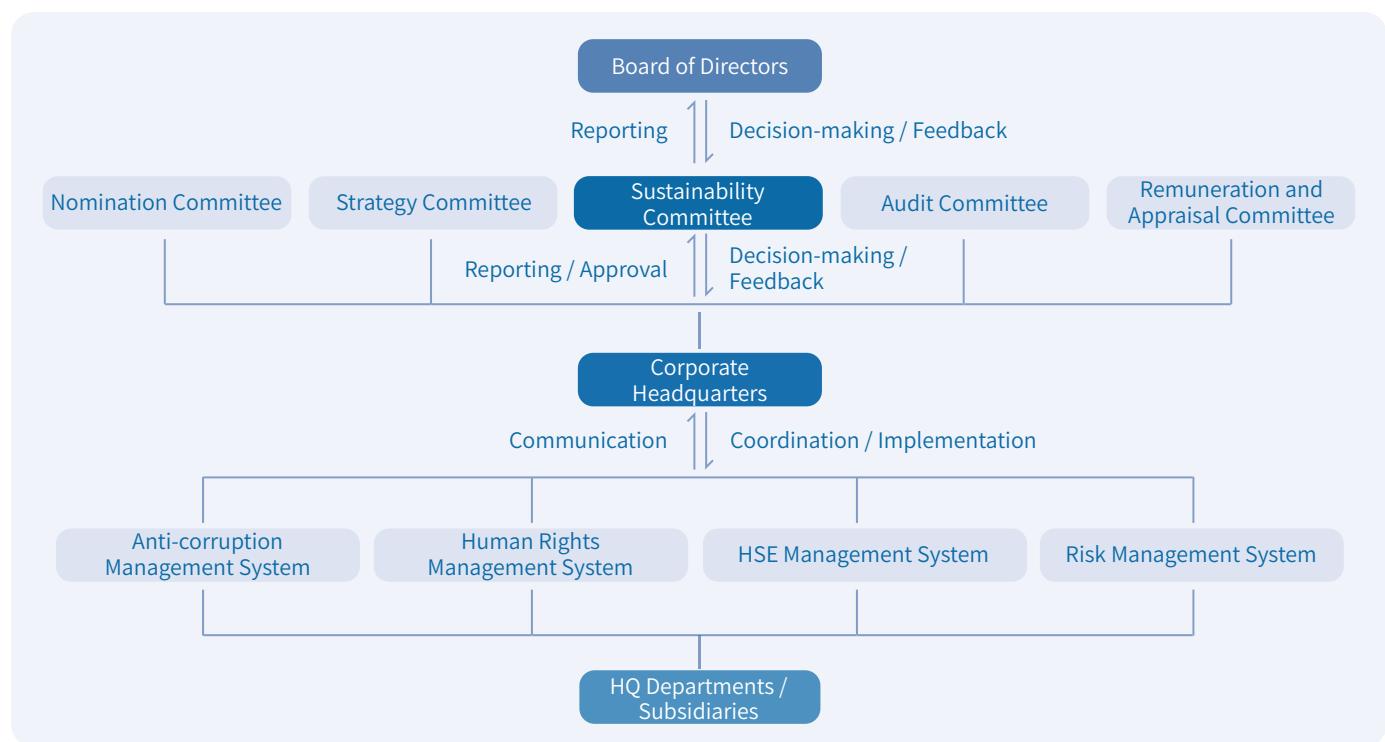


Sustainability Management

ESG Governance Structure

Sinopec Corp. actively fulfils its sustainable development concept by focusing on the objective of "refuelling for a better life", establishes and continues to improve ESG governance structure and ESG management policies, and promotes the integration of ESG into corporate strategy, production and operation and corporate culture. The Company keeps strengthening the CSR management and practice, and attaches importance to communications with stakeholders, to promote a win-win situation for the economy, environment and society.

The Company establishes the Sustainability Committee under the Board and promotes the integration of ESG factors into corporate decisions by improving ESG top-level design, providing a solid foundation for the Company's sustainable development.



- The Board of Directors is the top ESG decision-making body, responsible for the overall planning and coordination of its ESG governance.
- The Sustainability Committee, with the Chairman of the Board as the chairperson of the Committee, is responsible for supervising and deliberating the Company's ESG strategy, targets and annual plans, and reporting ESG implementation results and major plans to the Board of Directors. Both the Strategy Committee and the Audit Committee under the Board of Directors also participate in the deliberation and decision-making of the Company's ESG risk management and other related issues such as addressing climate change and protection of health and safety.
- Our headquarters is responsible for the overall coordination and implementation of the Company's ESG management, and functional departments, such as Energy Management and Environmental Protection, Security Supervision, Human Resources, Enterprise Restructuring and Legal are responsible for the management of specific ESG issues.
- Our subsidiaries operate in accordance with the Company's ESG management policies, ESG master plan, targets and tasks.

Investor Relations Management and Stakeholder Engagement

In accordance with relevant laws, regulations and supervision rules of securities both home and abroad, Sinopec Corp. attaches great importance to investor relations management, and formulates the *Sinopec Management Regulations on Information Disclosure* and *Sinopec Management Regulations on Investor Relations*. Conforming to regulatory requirements, the Company maintains positive interaction and communication with investors through the General Meeting of Shareholders, institutional investor meetings, roadshows, investor hotlines, and online platform communication.

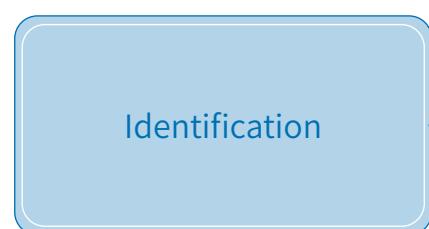
The Company strengthens the communications with stakeholders, including government, regulators, customers, employees, communities, etc., and has established various channels for regular and special communication with multiple stakeholders to thoroughly understand their demands and expectations.



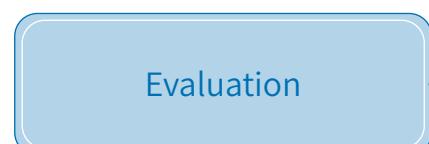
- Address climate change
- Green-oriented transition of energy
- Pollution and emission management
- Biodiversity and land use
- Resource recycling and reuse
- Water resource management

Materiality Analysis

In 2022, the Company continued to identify, screen, and evaluate sustainability issues. This report discloses and responds to the Company's management and practical performance in addressing the 21 identified issues. The sustainability issues for 2022 remained largely unchanged from those in 2021. The relevant changes come from the in-depth interpretation of the issues based on the national macro-policy guidance, such as "energy supply guarantee and green-oriented transition" and "community communication and engagement".



We studied macro policies, energy and chemical industry trends and regulatory requirements, and benchmarked with the sustainability performance of industry peers as well as business characteristics and strategic plans of the Company. We reviewed our development strategy and plans, and identified 21 issues of significance both to the Company and its stakeholders.



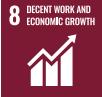
We invited both key stakeholders, such as investors and sustainability experts, and employee representatives, to evaluate the identified issues from their perspectives, and constructed a two-dimensional mapping of the issues based on their significance.



Based on the materiality matrix constructed, we ranked the material issues based on their significance, and selected the issues with high significance for focused disclosure in this report.

Issue hierarchy	No.	Material issue	Indicator aspect
Core	1	Risk management and operation compliance	-
Core	2	Invest in new energy	A4 Climate Change
Core	3	Address climate change	A4 Climate Change
Core	4	Research and innovation	-
Core	5	Occupational health and safety	B2 Health and Safety
Core	6	Energy supply guarantee and green-oriented transition	A4 Climate Change
Core	7	Pollution and emissions control	A1 Emissions, A3 The Environment and Natural Resources
Core	8	Corporate governance	-
Core	9	Business ethics and anti-corruption	B7 Anti-corruption
Core	10	Quality of products and services	B6 Product Responsibility
Core	11	Digital transformation	-
Core	12	Respect human rights	B1 Employment, B4 Labour Standards
Core	13	Resource recycling and reuse	A2 Use of Resources
Core	14	Employee training and career development	B3 Development and Training
Core	15	Support common prosperity	B8 Community Investment
Important	16	Biodiversity and land use	A3 The Environment and Natural Resources
Important	17	Water resource management	A2 Use of Resources
Important	18	Community communication and engagement	B8 Community Investment
Regular	19	Responsible supply chain	B5 Supply Chain Management
Regular	20	Taxation and job creation	B8 Community Investment
Regular	21	Diversity and equal opportunity	B1 Employment

SDGs Mapping Table

SDGs	Sinopec Corp. Actions in 2022
	We vigorously participated in the rural revitalisation. In 2022, we provided RMB 211 million and introduced RMB 231 million in rural development support and procured RMB 1.156 billion of products from poverty areas, including 1,963 products, covering 22 provinces and 149 poverty alleviation counties across the country.
	We supported the development of specialty agriculture in rural areas. Over 16,175 mu of quinoa were grown in 10 townships of Dongxiang County, Gansu Province, and sold over RMB 70 million all year, helping 4,964 households grow their incomes.
	We protected the health and safety of our employees, and provided all employees with occupational disease screening, prevention, physical examination, and special intervention for high-exposure personnel. Sinopec Corp. has maintained zero fatalities for overseas security for 15 consecutive years. The Sinopec Employee Assistance Programme (EAP) Committee adopts positive psychological care initiatives to promote the physical and mental health of our employees.
	We provided a variety of training for our employees and organised 33 key training programmes in 54 sessions throughout the year, centralised training with 5,732 participants, and online training with 6,375,520 accumulative participants, with 60 million training hours. We actively carried out education assistance, donated RMB 50 million for hardware upgrading of rural schools, trained more than 2,000 teachers, provided financial aid to more than 1,500 students by our employees, and dispatched 245 volunteer teachers to recipient schools, with a total duration of 1,196 days.
	We uphold gender equality and have established the Female Employees Committee to protect the rights of female employees. We strive to eliminate gender discrimination in recruiting and promotion, and encouraged female employees to participate in democratic management of the enterprise. We paid attention to the needs of female employees during pregnancy and maternity, as well as the physical and mental health of female employees.
	We set annual water consumption targets and reduced our annual industrial fresh water withdrawal by 1% or greater year-on-year. To achieve this, we optimised water sourcing strategy to replace the use of fresh water with unconventional water resources. We upgraded water facilities in Dongxiang County to bring tap water to villages in Dongxiang County, Gansu Province.
	We actively invested in new energy businesses to increase the share of natural gas and other clean energy in our energy supplies, with 7.44 billion cubic metres of natural gas production capacity. We have accumulatively built and operated 98 hydrogen refuelling stations. Our bio-jet fuel capacity reached 100,000 tonnes per year.
	We strive to support local economic development through investing, paying taxes, creating jobs and increasing localised procurement. We generated job opportunities for migrant workers and new recruits from previous employment history. We also actively recruited female employees, overseas employees and minority employees to ensure equal employment opportunities.
	We supported to construct a clean and low-carbon energy supply system, deepening new infrastructure and services such as charging and swapping facilities and hydrogen refuelling stations, and supporting green transportation and hydrogen energy transportation development. We have built six intelligent factories and piloted digitalised and contact-free intelligent gas stations in nearly 20,000 Sinopec service stations.

SDGs	Sinopec Corp. Actions in 2022
	We respect human rights, strictly forbid the use of child labour and forced labour, and forbid any form of discrimination such as due to gender, region, religion and nationality. We strive to further increase the diversity at our workplace, such as in gender and ethnicity, and fully ensure equal opportunities for employees.
	We actively cooperated with the development of the new energy vehicle industry and accelerated the construction of new energy vehicle charging and swapping facilities and hydrogen refuelling stations. We spent RMB 100 million to build village roads in Dongxiang County, Gansu Province.
	We kept optimising HSE management to ensure continuous improvement in workplace safety, occupational health and environmental compliance. We worked together with our suppliers to promote green procurement and responsible procurement, and the percentage of our contractors certified in OHS management system keeps 100% for a long time. We disclosed our sustainability performance in our annual sustainability report to improve transparency.
	We promoted carbon emission reduction technologies, and strengthened the monitoring and managing of greenhouse gas emissions. We strive to create the energy conservation and environmental protection industry by promoting the development and industrialisation of CO ₂ resource utilisation technology and building the whole industry chain of CCUS, and recovered CO ₂ 1,534 million tonnes in 2022. We continued to implement energy efficiency improvement projects. We carried out 479 energy efficiency improvement projects throughout the year, saving 946,000 tonnes of standard coal.
	We conducted site visits to enterprises along the Yangtze River, the Yellow River and other key river basins to protect the environment of the river systems. We maintained our membership in the Alliance to End Plastic Waste (AEPW) to protect the marine environment and marine life. We took meticulous measures to prevent oil spill accidents at sea, recycle and reuse more wastewater, and decrease the amount of fresh water withdrawal. We conducted soil and groundwater assessment to prevent soil and groundwater contamination.
	We required all new and under-construction projects to pass environmental impact assessment first, and identify the eco-environmental sensitivity of projects to avoid eco-sensitive areas and ecological conservation areas. We also conducted ecological environment assessment for decommissioned facilities, and carried out ecological restoration work if needed. Our biodiversity practice was selected into the <i>Business Handbook for Biodiversity Conservation Cases Summary</i> , which was released at the China Corner side event of the second phase of the Fifteenth Conference of the Parties to the United Nations Framework Convention on climate change (COP15) in Montreal, Canada.
	We complied with the code of business ethics, continued to improve integrity and compliance management to ensure business integrity, and implemented a "zero tolerance" policy for corruption and violations of business ethics to eradicate all forms of corruption. We also urged our suppliers and contractors to strengthen their security management and environmental protection efforts.
	We continuously supported UN Global Compact and other global initiatives, and cooperated closely with international organisations, trade associations, research organisations and business partners to explore cutting-edge technology development. We also continued to invest in e-commerce platforms such as EPEC and Sinopec Chemmall to achieve win-win development of the industrial chain.

Governance System

Board of Directors

For details of the members of the Board, please refer to the *Board of Directors* section on the Company's website.



In accordance with the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, the *Mandatory Provisions of the Articles of Association of Companies Listed Overseas* and other national laws and regulations, as well as the provisions on the supervision and administration of securities at both domestic and international levels, Sinopec Corp. has formulated the *Articles of Association* and other governance documents, to continuously improve the corporate governance system.

The General Meeting of Shareholders of the Company approved and adopted the *Articles of Association* and the *Rules of Procedure of the Board of Directors* to establish legally binding provisions on the composition, functions and authorities, rules of procedure, and other related matters of the Board and its committees. The session of the Board of Directors is responsible for reviewing and adopting the working rules and amendments of its committees.

Effectiveness of the Board

As the decision-making body of Sinopec Corp., the Board plays a critical role in corporate governance. In strict accordance with the relevant provisions of the *Guidelines for the Governance of Listed Companies* issued by the CSRC, the Company has clarified and defined contents such as the selections and obligations of directors, the performance and evaluation of directors, the composition and responsibilities of the Board, and the rules of procedure of the Board by establishing and improving the related system and working mechanism, to lay a solid foundation for the effective governance of the Board. The Company has included a chapter in the annual report dedicated to the Report of the Board of Directors, which fully discloses the annual performance of the Board.

Diversity of the Board

The Company has formulated and implemented the *Board Diversity Policy*, taking several factors in relation to the diversity of the Board into consideration during Board selections. These factors include professional experience, skills, knowledge, length of service, regions, cultural and educational backgrounds, gender and age, etc. This policy aims to enhance the sensitivity of the Board to a wider range of risks and effectively improve its scientific decision-making abilities. The present Board of Directors has extensive professional theoretical and practical experience in different industries both home and abroad. Their professional backgrounds include petroleum and petrochemicals, economics, accounting, finance, management, etc. As of the end of 2022, the proportion of female directors in the Company was 10%.

Attendance of the Board

In accordance with relevant laws, regulations, and the *Articles of Association*, all members of the Board are diligent and conscientious in exercising their professional knowledge and skills, standardising the exercise of their functions and authorities, earnestly implementing the resolutions of the General Meeting of Shareholders, and making scientific decisions for the sustainable development of the Company. In 2022, the Company held nine Board meetings with full attendance of the directors, and approved 42 motions. Relevant information about the meetings is disclosed on the websites of related stock exchanges and our corporate website in the form of announcements.

Other positions of independent directors

In accordance with the relevant requirements of China Securities Regulatory Commission, and to ensure that independent directors have enough time and energy to effectively perform their duties, the Company stipulates in the *Articles of Association* that "those who have concurrently served as an independent director in five listed companies" are not eligible to be an independent director of the Company.

Board election

Directors shall be elected or replaced by the General Meeting of Shareholders, and each Board has a three-year tenure of office. Independent non-executive directors may not be re-elected for more than 6 years. The Company outlines the nomination methods and procedures of directors in the *Articles of Association* and the *Procedures for the Nomination of Director Candidates of Sinopec*.

Independence of the Board

The *Articles of Association* and related policy documents can be found at:



The Company stipulates the terms of appointment and election procedures of independent non-executive directors in the *Articles of Association*. The number of independent non-executive directors shall account for at least one-third of the Board's total members. The nominators to express their opinions on the qualifications and independence of the nominees as independent directors, and the nominees shall make a public statement to declare that they do not have a relationship with the Company that would influence their independent and objective judgment. The Company confirms the independence of its independent non-executive directors annually.

The Board reviewed and approved the *Terms of Reference of the Independent Non-Executive Directors* in November 2021. Each independent non-executive director fulfills his or her duties in good faith as required by the *Company's Terms of Reference of the Independent Non-Executive Directors*, providing independent opinions on matters such as the Company's appointment of senior management personnel, related transactions, profit distribution plans and other matters, and safeguarding the legitimate rights and interests of small and medium-sized investors. Independent directors are also granted special powers, such as putting forward specific requirements for audit work, participating in the selection of external auditing agencies, proposing to convene a Board meeting, etc.

By the end of 2022, the Company had four independent non-executive directors in the Board, accounting for 40% of its total members. Independent non-executive directors participate deeply in the work of each committee of the Board and contribute to the reform and development of the Company, three of whom serve as chairperson of the Remuneration and Appraisal Committee, the Audit Committee, and the Nomination Committee respectively.

Board Committees

The Company has established five committees under the Board, which are the Strategy Committee, the Audit Committee, the Nomination Committee, the Remuneration and Appraisal Committee, and the Sustainability Committee. The committees conduct research on professional matters, and present opinions and suggestions to the Board for decision-making. The members of the Board committees are directors of the Company. The Chairman of the Board serves as chairperson of the Sustainability Committee to promote the in-depth integration of sustainable development with the Company's operations.

Strategy Committee

- Making recommendations to the Board on the long-term development strategies and significant investment decisions of the Company.
- Consists of eight directors, including Chairman of the Board, who serves as chairperson of the Committee, and three independent non-executive directors, who serve as members.
- In 2022, the Strategy Committee convened one meeting in total, with a 100% attendance rate, and approved the *Sinopec's 14th Five-Year Plan for Economic and Social Development and the Long-Range Objectives through the Year 2035* and the *Motion on 2022 Investment Plan*.

Audit Committee

- Responsible for proposing to hire and replace external auditing agencies, supervising the Company's internal audit system and its implementation, handling the communication between internal auditing and external auditing agencies, reviewing the Company's financial information and its disclosure policies, reviewing the Company's internal control system, etc.
- The Audit Committee consists of 4 independent non-executive directors, with an independent director who is an accounting professional as the chairman.
- In 2022, the Audit Committee convened five meetings in total to review and approve 17 topics, including the *Internal Control Manual (2022 Version)*, the *Description on the Business Performance, Financial Status and Related Matters in 2021*, the *Ongoing Assessment Report on the Risk of Related Transactions between Sinopec, Sinopec Finance Co., Ltd. and Sinopec Century Bright Capital Investment Co., Ltd.*, the *Report on the Implementation of Financial Derivatives Business in 2021 and the Work Plan in 2022*, the *Financial Report 2021*, the *Annual Report 2021*, the *Internal Control Evaluation Report for 2021*, the *Report on Auditing in 2021 and Arrangement of Auditing in 2022*, the *First Quarterly Report for 2022*, the *20-F Report for 2021*, the *Notes on Business Performance*, the *Financial Status and Related Matters in the First Half of 2022*, the *Semi-Annual Financial Report 2022*, the *Semi-Annual Report 2022*, the *Ongoing Assessment Report on the Risk of Related Transactions between Sinopec, Sinopec Finance Co., Ltd. and Sinopec Century Bright Capital Investment Co., Ltd. in the first half of 2022*, the *Report on Auditing in the First Half of 2022 and Arrangement of Auditing in the Second Half of 2022*, the *Third Quarterly Report for 2022*, and the *Report on the Implementation of Internal Audit Plan in the Third Quarter of 2022*, with a 100% attendance rate.

Remuneration and Appraisal Committee

- Researching and reviewing the remuneration policies and plans of directors, supervisors and senior managers. Researching the evaluation criteria for directors and senior managers, conducting evaluations and making recommendations.
- Composed of three directors, with an independent non-executive director serving as chairperson of the Committee.
- In 2022, the Remuneration and Appraisal Committee convened one meeting, with a 100% attendance rate, and approved the *Report on the Implementation of the Remuneration System for Directors, Supervisors and Senior Managers in 2021*.

Nomination Committee

- Making recommendations to the Board on the size and composition of the Board, as well as the selection criteria, procedures and candidates for directors and senior management personnel based on the Company's requirements.
- Composed of three directors, with an independent non-executive director serving as chairperson of the Committee.
- In 2022, the Nomination Committee convened one meeting in total, with a 100% attendance rate, and approved the *Motion on the Appointment of Senior Vice President*.

Sustainability Committee

- Making recommendations to the Board on major decisions related to the Company's sustainable development. Supervising the implementation and progress of the Company's sustainable development strategies and plans. Supervising the Company's commitment and performance on key issues such as climate change, health and safety, and social responsibilities.
- Composed of four directors, including Chairman of the Board, who serves as chairperson of the Committee, and one independent non-executive director.
- In 2022, the Sustainability Committee convened one meeting, with a 100% attendance rate, and approved the *2021 Sinopec Corp. Sustainability Report*, the *Report on Environmental Protection Work in 2021 and Work Plan for 2022*, and the *Report on Anti-corruption Compliance Work in 2021 and the Working Arrangements in 2022*.

Board of Supervisors

The Board of Supervisors is accountable to the General Meeting of Shareholders. The Board of Supervisors is responsible for safeguarding the legitimate rights and interests of the Company and its shareholders by inspecting and supervising the legality of the performance of the directors and senior management personnel. To standardize the discussion methods and voting procedures of the Board of Supervisors, and improve the corporate governance structure, the Company has formulated the *Rules of Procedure of the Board of Supervisors* in accordance with the regulatory laws and regulations of listed companies at home and abroad as well as the *Articles of Association*, which specifies the powers, composition, meeting system, discussion procedures, information disclosure and other contents of the Board of Supervisors. In addition to the qualifications specified in the *Company Law of the People's Republic of China and the Articles of Association*, supervisors of the Board of Supervisors must possess professional knowledge and working experience in legal, accounting or other professional fields to effectively support the stable and orderly operation of the Company.

Supervisors who are not employee representatives of the Company are elected and dismissed by the General Meeting of Shareholders, and those who are employee representatives are democratically elected and dismissed by employees of the Company via employee congress or other means. According to the *Articles of Association*, employee representative supervisors must constitute at least one-third of the total number of supervisors. By the end of 2022, the Company's Board of Supervisors consisted of eight members, of whom three were employee representatives, accounting for 37.5% of the Board. In 2022, the Board of Supervisors convened four meetings and deliberated on nine topics, with a 100% attendance rate of supervisors.

Remuneration and Appraisal of Directors and Senior Management Personnel

The Remuneration and Appraisal Committee of the Board of Directors formulates and reviews the remuneration policies and plans for directors and senior management personnel according to the corporate policies and goals set by the Board of Directors. The Committee also takes into account the remuneration level of peer companies, as well as their specific responsibilities and the time they paid, and puts forward suggestions on their appraisal. Meanwhile, the Committee supervises the implementation of the remuneration system, ensuring that neither any director nor their contact person participates in the formulation of their own remuneration.

The remuneration structure of the Company's senior management personnel includes basic salary and performance bonus, which are implemented in accordance with the Company's *Measures for the Implementation of Senior Management Remuneration*. The annual performance bonus is determined mainly based on the appraisal of key performance indicators. The Company discloses the remuneration information of the Board of Directors and senior management in the annual report, which can be found in the

Sinopec Annual Report 2022. The Company conducts regular market benchmarking of salary performance, utilising the results to guide subsidiaries in controlling income distribution gaps between personnel at different positions and levels. This is achieved by referring to labour market prices, improving salary competitiveness for key talents, and establishing a reasonable distribution system.

To enhance its medium and long-term incentive mechanism, the Company has developed comprehensive guidelines for incentives, including the implementation rules of equity and dividend incentives for technology-based enterprises, employee stock ownership, excess profit sharing and joint investment for mixed ownership enterprises. The Company has also established other systems to encourage eligible subsidiaries to expedite the implementation of medium and long-term incentives, thereby effectively stimulating the innovation capacity and efficiency of management personnel and key employees.

The Company incorporates ESG indicators into the performance appraisal in the form of obligatory targets, mainly including

workplace safety (including but not limited to safety violations, accidents), energy conservation and environmental protection (including but not limited to greenhouse gas emission, pollutant discharges and emissions, energy efficiency management, environmental protection violation), anti-corruption management, operation compliance, risk management, etc. Failure to meet the assessment targets will result in the deduction of the comprehensive appraisal scores. The performance appraisal is tied to the remuneration. For each deduction of 1 point, a certain percentage of the performance bonus, up to 20%, will be deducted. Besides, the Company has set up an incentive mechanism for key ESG indicators, and established a special award for energy conservation and environmental protection, mainly awarded to subsidiaries and individuals who have made outstanding achievements in preventing environmental protection, promoting cleaner production and implementing energy conservation and carbon emission reduction.

The guarantee of integrity and compliance management is the basis of the Company's stable and long-term development. Sinopec Corp. adheres to the rule of law and continues to improve compliance management policies and systems. The Company has developed compliance-related systems such as *Opinions on Strengthening Management in Accordance with the Law*, *Integrity and Compliance Management Handbook*, and *Compliance Management Measures*, to integrate the compliance into the management system and employee code of conduct. The Company maintains high standards of business ethics, and always implements a "zero tolerance" policy towards corruption and violations of business ethics by strictly eliminating all relevant cases. The Company continuously strives to promote integrity and compliance management and integrity risk prevention and control.

Business Integrity and Operation Compliance

Strengthen Compliance Management

The Company has established the "five in one" law-based governance plan including law, compliance, internal control, risk control and system, and promoted the construction of the compliance risk identification, monitoring, inspection and reporting operation mechanism. In 2022, the Company comprehensively classified and defined the scope of high-risk businesses, high-risk positions and key personnel. Furthermore, the Company has integrated compliance management into internal control, business processes, and individual responsibilities. During the reporting period, the Company had no major legal compliance incidents.

Sinopec's Key Compliance Management Measures in 2022

Improving the compliance management system

- Formulating and implementing *Sinopec Compliance Management Measures* in 2022, as well as special system specifications and business compliance guidelines (issued a total of 12 sets from 2020 to 2022).
- Publishing the revision of *Sinopec Compliance Management Measures* in November 2022 to further clarify the division of responsibilities, workflow, operation mechanism and other contents.

Promoting the construction of the compliance management system

- Finishing the pilot construction of the compliance management system in 14 subsidiaries in 2021 to complete the overall construction of the compliance management system and conducting compliance self-inspection via the system in 2022, to rectify relevant problems systematically.
- The Company formed 97 compliance management evaluation indicators in accordance with the *Sinopec Compliance Management Inspection and Evaluation Guidelines*, and evaluated the compliance management of its 134 directly affiliated subsidiaries, completing the construction of the compliance management system for its directly affiliated subsidiaries.

Preparing Risk List and Compliance Manual to integrate compliance into comprehensive risk management

- Identifying compliance risks in the fields of safety in production, ecological environment protection, finance and taxation, bidding, labour and employment, etc.
- Preparing the "two lists", the compliance responsibility list of key posts and the compliance management list of key business processes. Adding the requirements for compliance risk identification and review in the comprehensive risk management matrix, and preparing the compliance handbooks for different businesses and functional departments.

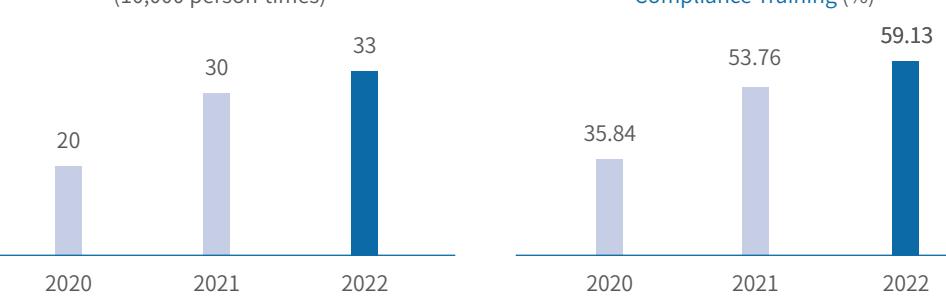
Strengthening overseas compliance risk control

- Formulating a series of policies and systems in terms of overseas compliance operation, specify 17 aspects and 58 specific provisions on overseas investment and operation behaviour and strictly prevent overseas compliance risks.
- Prioritising the prevention and control of foreign-related compliance risks such as national security review, antitrust, intellectual property, and information disclosure, insisting on holding joint meetings and compiling monthly reports on foreign-related legal compliance risks, and enabling effective risk prevention and response.
- Establishing a laws and regulations database in major overseas compliance areas.

Creating a corporate culture of good faith and compliance

- Making legal compliance training a compulsory course for management training, professional training, new employee training, and foreign-related personnel training, and focusing on strengthening the compliance training for high-risk positions and key personnel.
- Actively promoting compliance culture and integrating the legal compliance concept into the core values of the Company. Setting up the "Civil Code for Better Life" column on the Company's platform, and sharing explanations of one piece of civil code every day, with a total of 398 articles published and a reading volume exceeding 30 million.
- In 2022, providing compliance training to 330,000 participants, with a coverage rate of 59.13%.

Number of Compliance Trainees
(10,000 person-times)



Employee Coverage Rate of Compliance Training (%)



Employee Codes of Conduct

For details of *Employee Codes of Conduct*, please refer to:



The *Employee Codes of Conduct* is formulated in accordance with the law, applying to all employees of the Company. The employees must abide by the laws and regulations of China or the country (region) where the Company operates, as well as the rules and regulations of the Company, including the *Employee Codes of Conduct*. The *Employee Codes of Conduct* provides behaviour guidelines in areas such as health and safety, environmental protection, business conduct, ethical standards, workplace protocols, quality requirements, confidentiality, etc., and requires all employees to adhere to relevant rules such as business integrity, anti-discrimination, and information confidentiality. Any employee who violates the *Employee Codes of Conduct* will face disciplinary measures under the *Sinopec Regulations on Punishment for Violations of Disciplines and Rules*. In circumstances where the offender may be charged with a crime, the offender will be transferred to the judicial system for legal liabilities.

The Company has developed and continuously optimises the *Integrity and Compliance Management Handbook*, which focuses on ten key areas such as corporate governance and operation, health, safety and environmental protection, social responsibility and employees' rights and interests, anti-monopoly and anti-unfair competition, anti-commercial bribery and anti-corruption, consumer rights and interests protection, intellectual property rights and data information, taxation and assets. The Company has specified 54 codes of conduct that the Company should follow and 50 codes of conduct that staff should abide by.

Business Ethics and Anti-Corruption Management

The Company maintains a "zero tolerance" approach to corruption and is committed to improving its anti-corruption and compliance system, as well as the supervision and management procedures. These efforts have enhanced the effectiveness of restriction and supervision on power operations and created a sound working environment with increased employee satisfaction with anti-corruption management.

Anti-Corruption Statement

The Company strictly abides by China's anti-corruption laws and regulations, the United Nations Convention against Corruption and the anti-corruption and anti-bribery laws applicable to the countries and regions where it operates. The Company complies with the business integrity and anti-corruption regulations and commitments of its business partners and always advocates for an integrity culture. The Company strictly forbids its subsidiaries and employees, including labourers and temporary workers, from giving or accepting bribes, or engaging in corruption, fraud, or monopoly behaviour for any reason, in any form and any location. The Company also requires suppliers, contractors, and service providers to follow these requirements. When conducting business overseas, the Company strictly abides by the principles and regulations of anti-corruption, anti-commercial bribery, anti-fraud, and anti-monopoly.

Anti-Corruption Organisation System

The Board of Directors of Sinopec Corp. is responsible for leading the Company's anti-corruption efforts, and the Supervision Department of the Company is tasked with organising or coordinating specific anti-corruption work. Each branch (subsidiary) has a special supervisory organisation or post to implement specific anti-corruption measures in accordance with national laws and regulations as well as the Company's regulations. The Company continues to improve its internal supervision system, ensuring that directors, supervisors, senior management personnel, and all institutions and personnel are properly supervised while exercising their management power. The Company also regularly conducts research and deploys key supervision tasks. In March 2023, the Company's anti-corruption and compliance management and its performance in 2022 was reviewed by the Sustainability Committee of the Board.

Anti-Corruption System

The Company has established and continued to improve the anti-corruption policy and system, which fully cover all its affiliated institutions, businesses and personnel, providing a solid guarantee for the Company's long-term and stable development. In 2022, the Company introduced several relevant systems, including the management regulations for business enterprises operated by relatives of management personnel, the interview mechanism for daily supervision, and the procedures for recording and reporting management personnel intervention in major matters. Management personnel and employees who are also CPC members must strictly abide by party regulations, such as the *CPC Code of Integrity and CPC Self-Discipline*, the *CPC Regulations on Anti-Corruption*, and other regulations, and are subject to relevant supervision accordingly.

The Company incorporated the anti-corruption assessment into the performance assessment system. The results of which are tied to salary, position, and rank adjustments. The assessment indicators mainly include three aspects: the performance of anti-corruption responsibilities and support for supervision institutions by the management; the performance of supervision; the performance of accountability.

The Supervision Department of the Company operates under the oversight of the Board of Directors, Board of Supervisors, and staff to ensure standardised behaviour and prevent abuse of power. By continuously optimising its internal supervision and restriction mechanisms and processes. The Department has strengthened the supervision and inspection of lower-level supervision institutions and standardised their supervision behaviour. Any tip-offs about supervisory authorities and supervisors will be accepted and independently investigated by specialised agencies. The Company strictly investigates and deals with corrupt practices of supervisors in accordance with its systems and relevant laws and regulations.

Main existing anti-corruption policies of Sinopec Corp.

- *Regulation on the Punishment of Employees Who Violate Disciplines or Regulations*
- *Supervision and Discipline Measures of Discipline Inspection and Supervision Team (Trial)*
- *Opinions on Strengthening Daily Supervision of Discipline Inspection and Supervision Institutions (Trial)*
- *Implementation Measures on Accountability for Non-compliance in Investment Management*
- *Regulations on Working Procedures for Accountability Investigation (Trial)*
- *Measures of Disciplinary Inspection and Supervision Agency for Handling Reports and Accusations*
- *Management Regulations on Business Enterprises Run by Relatives of Management Personnel (2022)*
- *Measures of Talk for Daily Supervision (2022)*
- *Recording and Reporting Procedures for Management Personnel Intervention in Major Matters (2022)*

Anti-Corruption Risk Assessment

To ensure effective risk management, the Company considers prevention and control of integrity risk as an essential component of its risk management plan. This includes conducting regular comprehensive risk identification, with a focus on anti-corruption and compliance risks. The Supervision Department regularly reports the overall state of anti-corruption and important matters to the Sustainability Committee and the Board. The Company prepares major risk management reports every quarter. According to the risk assessment in 2022, the Company's integrity risk is controllable, without significant changes in risk levels.

Key Efforts in 2022

Strengthening anti-corruption education comprehensively

The Company conducted the Anti-Corruption and Integrity Education Month event, organised cautionary education by using typical cases in the Company, and set up columns in the Company's internal media to strengthen publicity and education, guiding all employees to consciously keep integrity, and creating a strong atmosphere of strict management and integrity. The Company integrated anti-corruption education into business training, defined specific contents in the induction training for new employees, and provided relevant education and training to employees at all levels, achieving a training coverage rate of 100%. Management personnel at all levels are also given due attention in terms of anti-corruption education, with centralised cautionary education, interviews, and case studies carried out to guide and urge them to follow business ethics. In 2022, the headquarters and subsidiaries of the Company provided 2,623 anti-corruption related courses, totaling 15,864 hours and maintained a 100% anti-corruption training coverage rate.

Continuously improving the anti-corruption and compliance systems

We have made continuous efforts to strengthen the construction of internal control, risk control, and compliance management systems, focusing on the restriction and supervision of power operations. We revised our internal control system based on the latest requirements of anti-corruption and compliance as well as the problems found during internal audits and external inspections, reducing limitations on discretion and promoting standardised power operation through authoritative guidance. We have also made timely revisions and improvements to our investment and operation management system, as well as the management personnel's benefits and business expenses systems, to reduce the risk of integrity. We also revised and upgraded the system for handling reports and accusations, which serves to safeguard the legitimate rights and interests of our employees while ensuring that investigations are conducted in accordance with regulations and disciplinary procedures.

Deeply conducting daily supervision and special governance

We have clarified the responsibilities of the management, supervision institutions and business departments (subsidiaries) at all levels to carry out normalised daily supervision through coordination, prompt identification and resolution of operation and management issues, and safeguard the rights and interests of shareholders and the public. Based on the actual situation of the Company, we organised and carried out special management in a timely manner to create a more sound system to further standardise the management of relevant business areas. In response to the problems found during supervision and inspection, we formulated and issued Supervision Proposals to urge relevant departments (subsidiaries) to rectify problems and loopholes, improve relevant systems and enhance management efficiency.

Strictly investigating and dealing with corruption

The Company maintains a strict "zero tolerance" stance towards corruption. Drawing lessons from past corruption-related cases, the Company has conducted root cause analysis with relevant subsidiaries, strengthened employee education, management and supervision, and improved systems and procedures to prevent the recurrence of similar problems. In 2022, a total of 27 people were punished for violating the Company's anti-corruption rules, and the court concluded three corruption lawsuits.

Indicators

Number of employees participated in anti-corruption trainings (10,000 person-times)
105.2
Coverage rate of anti-corruption trainings (%)
100
Number of disciplinary legal education training education (10,000)
1.3
Number of employees participated in CPC integrity and anti-corruption trainings (10,000 person-times)
85.2
Total number of public entries in the Business Disclosure Information System (10,000)
533.78

2020	2021	2022
118.7	119.5	
100	100	
1.4	1.4	
86.9	88.2	
444.09	489.37	

Anti-Corruption and Compliance of Supply Chain

The Company has developed a series of systems related to the anti-corruption code of conduct for contractors and suppliers, including *Management Regulations on the Letter of Responsibility for Business Ethics*, *Management Measures for Market Integrity System of Construction Projects*, *Management Regulations on Bidding and Submission of Tendering for Construction Projects*, *Management Measures for Material Procurement and Resources Supply*, etc. In 2022, the Company expanded its focus on integrity control by adding a dedicated section in the *Overall Control Plan of Engineering Construction Projects*, the *Project Management Handbook* and the *Integrity Control of Engineering Construction (Template)*. The Company clearly embedded integrity risk control into key project stages such as project bidding, project change, contract settlement, quality and safety management, contractor management, acceptance of projects, and on-site inspection throughout the project preparation, implementation, trial production and acceptance. We determine the risk level according to the types and causes of integrity risks and formulate effective preventive measures based on factors such as system provisions, management responsibilities, working standards and post features.

The Company requires all suppliers and contractors to sign a *Letter of Responsibility for Business Ethics* (including those registered on the EPEC online platform) to clarify the Company's requirements for business ethics and anti-corruption. The *Letter of Responsibility for Business Ethics* is legally binding as an appendix to the procurement contract and agreement. Meanwhile, the Company entrusts a third-party commercial credit evaluation agency to conduct corporate credit certification for suppliers, regularly monitors the credit changes and abnormal operation of its suppliers and contractors using big data technologies, and tracks their operations for any administrative sanctions or penalties for faith-breaking. By doing so, we are able to promptly identify any potential risks associated with our suppliers and contractors, and proactively avoid business risks.

The Company has established explicit handling measures effectively address any violations of anti-corruption regulations. Depending on the severity of the circumstances, the measures may range from issuing a warning, to suspension or termination of business cooperation, placing the offender on the "blacklist", and reporting to the judicial authorities for criminal prosecutions, etc. For registered suppliers of the EPEC platform who violate relevant regulations, the Company will also release the handling results on the platform.

In 2022, 2,937 suppliers passed the corporate credit certification, bringing the accumulative number to 10,327. In 2022, six suppliers were penalised for violating the Company's regulations on business ethics.



Guangdong Company builds the first "Integrity Culture Demonstration Station" and organises employees to learn and visit the Integrity Culture Wall

Anti-Corruption and Compliance Management Systems for Suppliers and Contractors

- *Management Regulations on the Letter of Responsibility for Business Ethics*
- *Management Measures for Market Integrity System of Construction Projects*
- *Management Regulations on Bidding and Submission of Tendering for Construction Projects*
- *Management Measures for Material Procurement and Resources Supply*

Petition and Whistle-Blowing Mechanism

Reporting channels

- The Company has set up unimpeded petition and whistle-blowing channels, including mail, phone, email and face-to-face reports.

Handling procedures

- Reviewing materials. Review the written materials of allegations received to master the basic information of the whistle-blower, major problems, the nature of the problems, etc.
- Summarising and registration. Summarise the main contents of the complaint materials according to relevant regulations and enter them into the petition and whistle-blowing management system.
- Handling. The handling personnel shall put forward suggestions for handling the problems reflected in the complaint materials, and submit them level by level to relevant responsible person of the supervisory authorities for approval before handling.
- Statistical analysis. The Complaint Management Department regularly makes statistics and comprehensive analysis of the handled data.

Protection of the whistle-blower

- The Company fully complies with applicable national laws and regulations on whistle-blower protection, regards the protection of whistle-blowers' privacy as a significant responsibility, enhances the internal confidentiality mechanism and formulates the Company's approaches to accusations.
- The Company allows anonymous reporting and stipulates that the whistle-blower's handwriting, network IP address, and other information shall not be investigated without authorisation. If the whistle-blower is suspected of making false accusation, framing, or other violations of discipline and laws, the investigation of his identity should follow the approval process. Those who intentionally disclose the whistle-blower's information or retaliate against the whistle-blower will face serious consequences once verified.

Tax Management

The Company formulates tax management measures and other relevant systems. The Company adheres to the principle of paying taxes according to the law, and conscientiously fulfills its tax obligation in compliance with the relevant tax policies and regulations of the country or region where the business is located, as well as the Company's management systems and operating specifications. With a strong focus on accurate and timely tax payments, we maintain authentic and complete tax-related data and records to meet regulatory requirements and disclose tax information in accordance with applicable regulations. We support and respond to the Base Erosion and Profit Shifting (BEPS) project, and commit to paying taxes according to the law in the place where economic activities take place and where business value is created, making due contributions to social and economic development.

In 2022, the Company further strengthened tax management. In addition to closely monitoring the issuance of new tax policies by the Chinese government, the Company increased its investment in education and training initiatives focused on tax policies. By promoting the integration of industry, finance, and tax, the Company

Intellectual Property Protection

The Company strictly abides by the *Civil Code of the People's Republic of China*, national criminal law, tort liability law, patent law, trademark law, copyright law, anti-unfair competition law, and other relevant laws and regulations related to intellectual property protection, fully undertaking intellectual property protection work. Based on these legal norms, the Company formulates and continuously amends

was able to optimise tax-related business processes, and enhance the policy understanding and application abilities of its tax management personnel, providing a solid foundation for the high-quality development of the Company.

To ensure strict prevention of tax risks, the Company continues to improve its internal control system and workflow, and established a quantitative assessment model of tax risks as well as a dynamic monitoring and early warning mechanism by leveraging information and digital technologies. In 2022, the Company also organised its subsidiaries to conduct tax self-inspections and promoted compliance awareness. The Company achieved solid results in compliance control at sources and during relevant processes, as well as result monitoring. In addition, the Company established and improved the long-term mechanism from the aspects of improving management systems, standardising internal processes, optimising the information system, and promoting the normalisation, institutionalisation, and precision of tax risk prevention and control, effectively enhancing the Company's abilities to prevent and control tax risks. In 2022, the Company had no major tax-related litigation or arbitration incident.

relevant policies and systems, such as the *Sinopec Measures for Patent Management* and *Opinions on Strengthening the Legal Protection of Intellectual Property Rights* to provide clear implementation regulations on the Company's patent management and the legal protection of intellectual property rights.

Risk Management and Internal Control

Comprehensive Risk Management

Sinopec Corp. attaches great importance to managing the risks that arise during the Company's development process. To this end, the Company continues to improve the comprehensive risk management system, optimises the risk identification and response mechanism, organises comprehensive risk assessment, conducts targeted management on annual primary and significant risks, and prepares comprehensive risk management reports. Meanwhile, the Company continues to improve its internal control system, and strengthens supervision and management of internal control to maintain sustainable development. In 2022, the Company had no significant risk incident, and had no incident of litigation such as anti-unfair competition and anti-monopoly.

The Company has established a networked risk management system which takes each management layer as the main body and each professional field as the mainline, in accordance with the principle of "layering, classification, and concentration". The Company's *Comprehensive Risk Management Measures* clearly defines risk management duties, fundamental procedures, information system construction, risk management culture, assessment and supervision across all departments. Subsidiaries of the Company have also formulated and improved their risk management systems, to make institutional settings more scientific, management functions more effective, rights and responsibilities more coordinated, and ensure that there are rules and laws to follow for risk prevention and control.

The Company carries out comprehensive identification of primary and significant risks and critical points of annual risk management every year and prepares comprehensive risk management reports. In 2022, the Company conducted multi-dimensional major risk identification and assessment focusing on the prevention and resolution of major risks and the recommendations of the annual risk assessment list proposed by internal and external consulting agencies. To further enhance risk management, the Company developed a quantitative indicator system for major business risks, which involved sorting out the attributes of various risk indicators, collecting historical data from the past 3 to 20 years, and establishing a standardised risk management index file. Each department has formulated relevant countermeasures to effectively deal with risks according to the risk indicators. In addition, the Company insists on carrying out risk management training, and fully integrates risk internal control into various business training, to comprehensively improve the risk management skills of employees. In 2022, 1,150 employees participated in risk management training.

Risk Management Framework

- The Audit Committee, set up under the Board of Directors, is responsible for reviewing risk management and reporting to the Board. The Committee evaluates the Company's annual comprehensive risk management report and conducts timely hearings on significant internal control and risk problems.
- The Company has developed its relevant departments to manage risks linked to environmental protection, addressing climate change, production safety, finance, legal affairs, anti-corruption, and overseas security. Each department collects risk information through multiple channels, conducts research and judgment, and then takes effective measures to actively deal with risks.
- In accordance with the requirements of comprehensive risk management, subsidiaries and professional companies of Sinopec have set up their comprehensive risk management leading groups to promote the effective implementation of risk management.

Positive Achievements in Annual Risk Identification and Assessment

- Questionnaire investigation. We organised 2,576 employees from the headquarters and subsidiaries to carry out risk assessment from the two dimensions of risk occurrence possibility and impact level.
- Specific analysis and research. We entrusted the internal and external consulting agencies to identify, study and analyse the main risks faced by the Company in 2023, and compiled a risk assessment report.
- Collecting risk reports. We collected the major risk reports of the leading risk prevention and control departments of the headquarters, and organised subsidiaries to carry out risk assessment, requiring them to report their top ten major risks.

- We summarised, analysed and sorted the major risks of the Company in 2023, and formed a list of major risks such as market competition and price risk, macroeconomic risk, HSE risk, international operation risk, technological innovation risk, energy security risk, compliance risk, stability risk, etc.
- Based on the risk list, we clarified the division of responsibilities, and prepared the Sinopec's Annual Comprehensive Risk Assessment Report in 2023.

Internal Control Management

The Board of Directors is responsible for establishing and optimising the Company's internal control system and ensuring its effective implementation. The Audit Committee of the Board is tasked with supervising and evaluating the Company's internal control. The Company established a comprehensive risk management leading group to promote the construction of the internal control system, and set up a specialised agency at the headquarters to organise and implement work related to internal control, and corresponding organisations undertook the daily internal control management at each branch or subsidiary.

Improving the internal control system

Implement a two-level internal control system. The Company has formulated the *Internal Control Handbook for the Headquarters* and the *Internal Control Handbook for Subsidiaries (Framework)*. The subsidiaries are required to follow the framework requirements of the headquarters and develop detailed rules for the implementation of internal control based on their actual situation. The *Internal Control Handbook for the Headquarters* covers the general principles, company-level system, business-level system, authoritative guidelines, inspection, evaluation and assessment methods, etc. Among them, the company-level system includes four parts: internal environment, risk assessment, information and communication, and internal supervision. The business-level system covers 24 categories such as capital activities, procurement, and production. The Company established a mechanism for amending the internal control system to identify defects in the system and relevant processes and dynamically update and adjust the system according to policy requirements, market changes, new business formats, and other factors.

Strengthening the supervision and evaluation mechanism

The Company's internal control system is supported by three lines of defence, including daily supervision by business departments, special supervision by internal control departments, and comprehensive supervision by audit, patrol inspection, and discipline inspection and supervision departments, achieving full coverage of annual self-assessment of all subsidiaries. In addition, the Company has integrated the daily work of internal control, the inspection and evaluation of internal control, and the implementation of rectification into the annual performance appraisal system of management at all levels, assessed and provided cash incentives for the performance of annual internal control.

Implementing internal control auditing

In 2022, KPMG, an external auditor, conducted internal control audits of 43 subsidiaries of the Company, covering monetary capital management, asset management, project management, contract management, information system and other businesses. The Company promptly addressed and corrected any issues uncovered during the audit process, and no major and prominent defects have been found during the auditing.

Technological Innovation

Sinopec Corp. is committed to building itself into a technology-leading enterprise, and remains dedicated to the implementation of its innovation-driven development strategy, striving to achieve breakthroughs in core technologies, strengthening major basic research at the forefront, and promoting reform of the technological system and mechanism. This includes a continuous effort to improve the efficiency of scientific and technological innovation to support and lead high-quality development.

Stimulating Innovation Vitality

The Company continues to improve the support and guarantee mechanism for tackling key technological problems, and continues to smooth the path of technological achievements transformation. We organised to formulate the *Implementation Plan of the "Being the First to Accept Challenges" and "Horse Racing" New Science and Technology Projects*, launched the first batch of the projects, and built a competitive mechanism for tackling key core technologies, to unlock innovation potential and stimulate innovation vitality within the Company.

The Company continues to strengthen the construction of the basic research capacity system. We organised the preparation of medium and long-term plans for basic research, to further strengthen the top-level design and system layout of strategic basic research. Initiatives such as the "Programme for Supporting Young Doctors" encourage

exploration of basic and disruptive technology fields, while "the Seed Programme" focuses on emerging fields like new refining and chemical processes, and new chemical materials. We carried out pilot programmes of forward-looking, original, innovative and creative projects for key universities and institutions, and continued to deepen the integration of industry, universities, research and utilisation.

The Company has deeply implemented the Technological Reform Demonstration Action. A total of eight research institutions directly under the Company have made substantial progress in optimising the innovation system, clarifying the main research directions, exploring innovative management modes and continuously increasing the vitality of innovation power.

Core Technologies Breakthrough

The Company maintained its focus on core technologies and achieved significant advancements in various fields of technology research and development in 2022.

Hydrogen Energy Industrial Chain

The Company has accelerated energy transformation and industrial upgrading. It has comprehensively promoted the construction of the entire hydrogen energy industrial chain, achieving breakthroughs in fields such as hydrogen refuelling stations, hydrogen production technology, hydrogen fuel cells, and hydrogen storage materials.

The self-developed megawatt Proton Exchange Membrane (PEM) electrolytic water hydrogen production device was successfully launched in Yanshan Petrochemical Company, producing qualified high-purity hydrogen. It marked the industrial application of Sinopec's complete technology of PEM electrolytic water hydrogen production.

We developed a complete set of hydrogen purification technologies for fuel cell vehicles, and built a 3000 Nm³/h purification unit and a 1000-tonne primary hydrogen supply station. Through tackling key challenges, we have also developed a standard system for the design, construction, and operation of hydrogen refuelling stations and oil

and hydrogen co-construction stations, which has supported the commercial operation of five highly integrated hydrogen refuelling stations and oil and hydrogen co-construction stations. We also built six regional hydrogen detection and quality inspection labs, and obtained the first national hydrogen detection CMA certification and CNAS approval, providing strong support for building China's leading hydrogen energy company.

In response to the fast-growing hydrogen energy industry and the rising need for large-scale hydrogen storage, Sinopec Corp. has undertaken engineering and technical research on ultra-high-strength high-pressure hydrogen storage materials and equipment, as well as a large double-shell vacuum insulated liquid hydrogen spherical tank. This effort lays the groundwork for storage tank expansion tests and relevant industrial applications, and provides robust technological support for Sinopec's development of green hydrogen energy.

Biomass Energy

In May 2022, China's first 100 thousand tonnes/year bio-jet fuel production unit was successfully put into large-scale trial production and won the first global RSB sustainable bio-jet fuel certificate in Asia. In December, the first commercial cargo flight in China using sustainable jet fuel completed its first international flight, marking

the shift from large-scale production towards large-scale application of China's bio-jet fuel by independent research and development. Compared with those of traditional petroleum-based jet fuel, the carbon emissions of bio-jet fuel in the whole life cycle can be reduced by more than 50%.

High-End Materials

The Company has developed a new process of homogeneous bulk olefin polymerisation, built a 1000-tonne high-specification polybutene-1 industrial demonstration unit, and achieved stable operation at full load. Many brands of products have reached the level of similar international products. We conquered the industrial technology of 48K large tow carbon fibre and realised the localisation

of key equipment. The 10000-tonne industrial plant (Phase 1) has been completed and put into operation. The product performance has reached the international advanced level, and the composite materials have been used for demonstration application. It marked the large tow carbon fibre's entry into the stage of large-scale production and application.

Degradable Plastic

We formulated the processing technology and product formula of bio-degradable materials with independent intellectual property rights. Bio-degradable materials such as PBST, PBAT and PBSA have been introduced to the market. Ecorigin, a bio-degradable material brand featuring technical innovation with industrial influence has been established. In August 2022, the bio-degradable material PBAT passed

the review of DIN CERTCO, and obtained the certificate of PBAT bio-degradable industrial compost and the passport for product export to the EU. The construction of the PBT/bio-degradable material flexible transformation project, with a capacity of 120,000 tonnes of PBT and 60,000 tonnes of bio-degradable material, began in October 2022.

CCUS Technologies

The Company continued to increase investment in CCUS technology research and development, accelerated the development of high-efficiency carbon capture solvent, and completed the pilot experiment of new high-efficiency ionic liquid capture solvent, reducing the average energy consumption by 40%, and reducing cost by about 20%. The Company built the first domestic industrial demonstration

device of 50,000 Nm³/d Membrane gas separation processes for CO₂ capture with independent intellectual property rights, reaching an internationally advanced level of CO₂ capture with a product gas CO₂ concentration of over 96% after evaluation by third-party testing institutions and industrial experts.

Indicators	2020	2021	2022
Number of patent applications filed in the year	6,808	8,045	8,687
Number of patent applications granted in the year	4,254	4,853	6,289
Cumulative number of patents granted globally	38,695	43,563	49,852
R&D investment (RMB 100 million)	152	211	225

Enhancing External Cooperation

Sinopec Corp. took proactive steps to integrate into the global innovation network, actively implement the "going global" strategy and enhance its innovation capabilities in the open and cooperative innovation ecosystem. The Company has set up a number of overseas R&D centres, communicated and cooperated with local enterprises to carry out scientific research and provide technical support. The Company enhances the cooperation with internationally renowned research institutions, and, by the end of 2021, has successively joined the International Institute of Synthetic Rubber Producers (IISRP), International Union of Pure and Applied Chemistry - Committee on Chemistry and Industry (IUPAC-COICI), Society of Petroleum Engineers (SPE), Society of Exploration Geophysicists (SEG), American Fuel & Petrochemical Manufacturers (AFPM) and actively participated in a variety of related activities to provide support for the construction of technology-leading company.

Digital and Intelligent Development

Sinopec Corp. focuses on energy transformation and industrial upgrading, and vigorously promotes digital and intelligent transformation. The new model of "data+platform+application" has proven to be highly efficient in supporting the Company's management innovation, business innovation and commercial model innovation.

In 2022, the Company achieved a leading position in the domestic industry with regard to its efforts towards digital and intelligent transformation. For example, our practice of business-driven digital transformation won the first prize in the National Enterprise Management Modernisation Innovation Achievement Award, the integrated investment optimisation and management platform won the Excellent Award of the 2022 IDC China Future Enterprise Award, the intelligent contract service won the title of 2022 Pioneer of Industrial Intelligence, and the data service platform won the DAMA China Award for Best Product in Data Management.

Improving the level of digital and intelligent transformation in various fields

- The in-depth application of financial digital and intelligent analysis, optimised management and control of investment integration, integrated big data of industrial auditing, and intelligent operation centre has effectively improved the Company's fine management level and risk prevention ability.
- Deepen the application of the intelligent operation centre at the headquarters, strengthen the collection and value mining of professional data such as procurement, production and sales, promote the application of models, and effectively support the operation analysis and plan optimisation of cross-business sectors.
- Accelerate the digital and intelligent transformation in oil and gas production, refining and chemical production, oil sales and other business sectors, including online intelligent applications, the building and upgrading of intelligent factories, and the new fuel card systems. In 2022, Beijing Oil Products Company and Hebei Oil Products Company provided "drive-by, window-up, touch-free" refuelling and hydrogenation services for the Winter Olympic motorcade.
- Significantly improve the informatisation level of safety and environmental protection management. The accident rate of hazardous chemical transportation has decreased significantly. Achieve company-wide visual supervision of environmental protection and emissions. 40 subsidiaries have launched the carbon asset system, with the carbon mapping granularity refined to the device-level, reducing the carbon mapping period by half.

Industrial digital upgrading

- Undertake more than 10 national pilot demonstration projects, including the "Industrial Internet + Production Safety" programme which has successfully completed 7 pilot projects. The "Digital Twin of Intelligent Ethylene Plant" programme has been selected as one of the top ten AI application scenarios by the Ministry of Science and Technology of the People's Republic of China. In addition, the application of 5G+AI and other new technologies has effectively improved the level of safety, environmental protection, and production and operation.

Information infrastructure capacity enhancement

- The Hohhot data centre was completed and put into operation. Our backbone network was upgraded to enhance the capability of mutual backup of applications, cloud resources, and video conference support.

A photograph of a large red and white ship sailing on the ocean under a colorful sunset sky. The sky is filled with various shades of blue, purple, and orange, with scattered clouds. The ship is positioned on the left side of the frame, moving towards the right.

02

Addressing Climate Change

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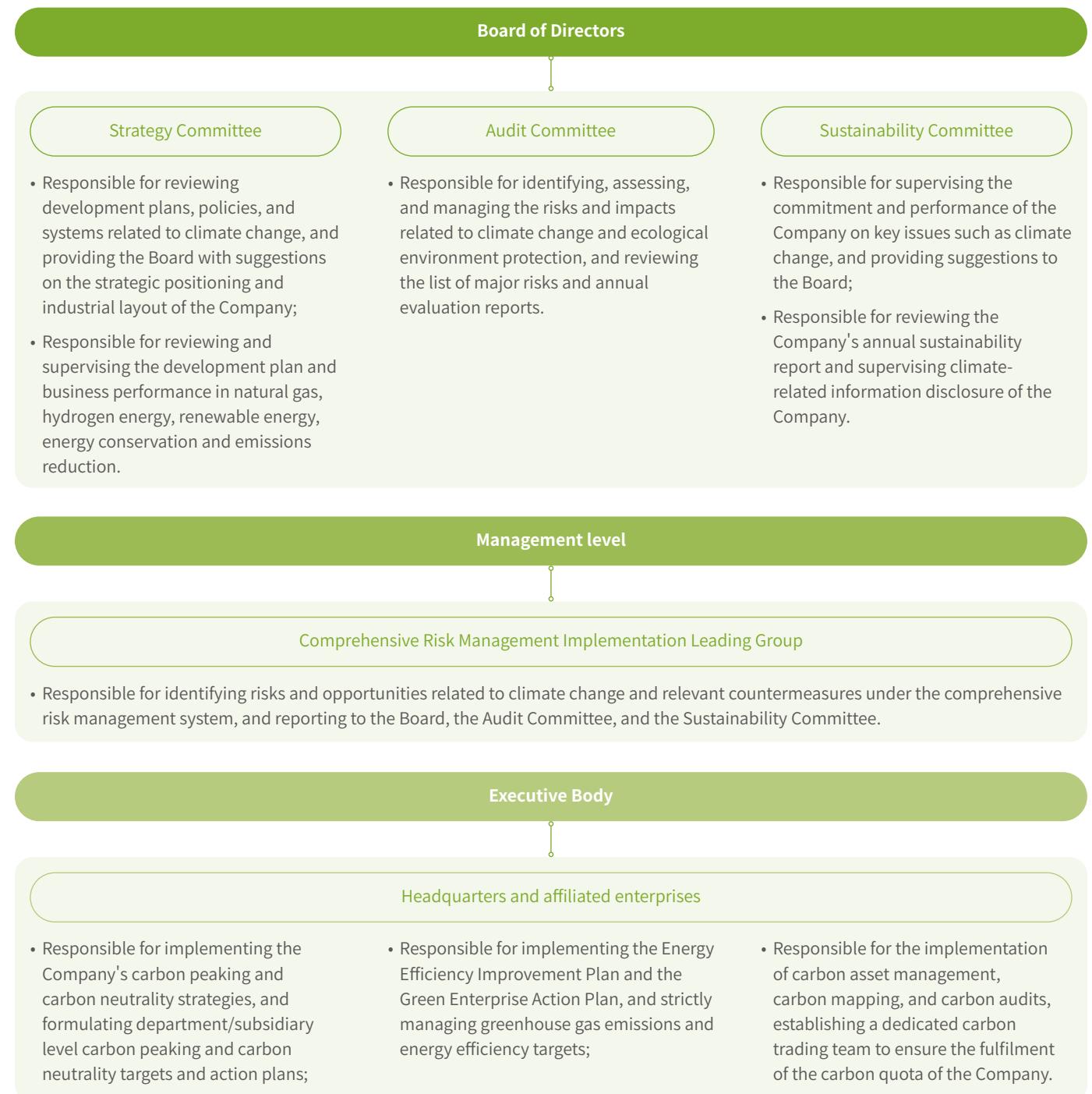
Climate Strategies and Actions

Sinopec Corp. actively implemented the major strategic decisions and arrangements of the central authorities and national governments on carbon peaking and carbon neutrality. The Company has made the *Sinopec Action Plan for Carbon Peaking by 2030* as the main task in the carbon peaking and carbon neutrality work, formulated annual carbon peaking plans, and fully implemented the "Eight Actions for Carbon Peaking" and 33 practical measures to actively mitigate and adapt to climate change. The Company also discloses its climate change management strategies and progress in line with the *Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)*.



Climate Governance

The Company is committed to fully integrating climate change into its strategic planning, corporate governance system, comprehensive risk management system as well as daily operation and management. The Company has established a three-level climate governance structure, with a clear division of responsibilities at the "Board of Directors - Management Level - Executive Body". This structure lays a solid foundation for improving climate governance and coping capacities.



Analysis of Climate-Related Risks

Type of Risks	Risk Descriptions	Countermeasures	Type of Risks	Risk Descriptions	Countermeasures
Physical Risks- Acute Risks	<ul style="list-style-type: none"> Increasing frequency of extreme weather events such as rainstorms, typhoons and floods cause damage to manufacturing facilities, transportation difficulties, supply chain disruptions and other risks, leading to decreased operating capacity, increased operating costs, and reduced profitability. Extreme weather events may cause secondary disasters and production accidents, posing threats to both personal safety and ecological environment and causing economic losses. 	<ul style="list-style-type: none"> Monitor extreme weather effectively and implement early warning systems, formulate disaster emergency plans according to local conditions, carry out disaster preparedness and emergency drills regularly, and set up materials reserve for disaster prevention and mitigation. Regularly inspect the production and operation facilities and upgrade them as needed to improve disaster protection levels. 	Transition Risks- Market Risks	<ul style="list-style-type: none"> Social concern about climate change and sustainable development has been increasing. Consumers are increasingly choosing green and low-carbon products and services, thereby reducing the demand for traditional high-carbon emission energy products. 	<ul style="list-style-type: none"> Expand the supply of clean energy products and services, build a comprehensive hydrogen energy industrial chain by taking the advantage of the excellent sales network, promote the hydrogen refuelling business, accelerate the construction of hydrogen supply centres, hydrogen refuelling stations, and charging and replacement power stations, and actively transform and develop into a comprehensive energy provider for oil, gas, hydrogen, electricity, and non-fuel businesses. Develop environment-friendly, green and low-carbon high-performance products, and promote the production and sales of green and low-carbon products such as degradable plastics.
Physical Risks- Chronic Risks	<ul style="list-style-type: none"> Changes in rainfall, extreme fluctuations in climate patterns and long-term average temperature rise may increase construction costs (such as due to extended construction period, early damage of equipment, etc.), and insurance costs for equipment and personnel. An increase or decrease in the average temperature may increase operating costs, such as increased demand for equipment cooling water, and increased demand for cooling and heating of production and office premises. 	<ul style="list-style-type: none"> Encourage the subsidiaries to identify the climate vulnerability of their operating regions and consider climate risks in infrastructure construction. Continue to strengthen energy conservation and emission reduction efforts, improve energy, water and other resources efficiency, and reduce dependence on natural resources. Conduct extensive climate change-related education for stakeholders and advocate the implementation of low-carbon and environmental protection concepts. 	Physical Risks- Technology Risks	<ul style="list-style-type: none"> To keep up with the rapid development and updates in technology driven by the low-carbon economy transformation, the Company will need to continuously increase efforts and investment in R&D in renewable energy, energy conservation and emission reduction technologies and other fields to provide support for achieving the carbon peaking and carbon neutrality goals. This will lead to an increase in operating costs. 	<ul style="list-style-type: none"> Increase the investment in R&D, prioritise breakthroughs in key technologies such as low-carbon, zero-carbon and negative-carbon, and fully complete and put into operation the first million-tonne full-scale CCUS industrial chain demonstration project in China.
Transition Risks- Policy and Legal Risks	<ul style="list-style-type: none"> Under the background of the carbon peaking and carbon neutrality goals, the government is shifting the focus of the "dual control" mechanism from energy consumption to the total amount and intensity of carbon emissions. More stringent laws and regulations will be imposed to limit or reduce carbon emissions, and promote the green and low-carbon transformation of enterprises. This could bring compliance risks to high emission and high energy consumption industries, and increase the Company's investment in energy conservation and emission reduction, leading to an increase in compliance operating costs. The national carbon emission trading market has established and implemented a carbon quota system. In the future, key emission industries such as the petrochemical industry may be included in the system, which could potentially increase the Company's carbon emission costs for compliance. The government is implementing stricter regulations to reduce methane emissions and venting and leaks. As a result, the Company may need to invest in improving its methane emission monitoring, reporting and verification (MRV) technical system, increase additional facilities and technical investment, and take more effective measures to minimise methane leakage. This may lead to an increase in the Company's operating costs. 	<ul style="list-style-type: none"> Promote the Green and Clean strategy, deepen the implementation of the Energy Efficiency Improvement Plan, and strictly control the energy consumption level; increase the application of Carbon Capture, Utilisation, and Storage (CCUS) technology and other emission reduction technologies and continue to promote clean utilisation of fossil energy, scaling-up of clean energy, and low-carbon production process. Strengthen the monitoring of greenhouse gas (GHG) emissions, and conduct thorough inventory and verification of carbon emissions across subsidiaries; actively participate in national-level carbon trading, optimise the trading strategies, and meet carbon quota obligations. Conduct methane emission detection in a normalised manner, strengthen methane recycling and reduce methane emissions. 	Transition Risks- Reputation Risks	<ul style="list-style-type: none"> Stakeholders are showing increased concern for the petrochemical industry's approach to climate change. Lack of significant action could lead to criticism from investors and other parties, potentially damaging the Company's reputation. 	<ul style="list-style-type: none"> Actively implement the concept of green and low-carbon development, strengthen communication and exchange with related parties. Timely address their concerns regarding climate change. Actively uphold the commitments made in the <i>Declaration on Carbon Peaking and Carbon Neutrality of the Chinese Petroleum and Chemical Industry</i> and to energy conservation and emission reduction.



Climate Action Strategies

Adopting Green and Clean as one of the six strategies of the "14th Five-Year Plan", the Company places emphasis on transitioning from traditional energy to clean energy sources. The focus is on ecological priority, green transition, and clean development, and promotes the clean utilisation of fossil energy, scaling-up of clean energy, and low-carbon production

processes. The goal is to lower energy consumption and emission intensity, firmly moving towards the targets of "net zero emissions", and making the Company a benchmark for green, clean, and low-carbon development.

Sinopec's Carbon Peaking and Carbon Neutrality Strategic Road Map

Accelerate the construction of a clean and low-carbon energy supply system

- Accelerate the development of new energy business with hydrogen energy as the core, take the development from hydrocarbon to hydrogen as the highest priority, and accelerate the development of China's leading hydrogen energy company with a hydrogen energy industrial chain.
- Promote large-scale development of bio-diesel and bio-jet fuel, and stand at the forefront of clean and low-carbon fuel industry.
- Continue to expand new, green, and low-carbon infrastructure and services, such as charging and replacement power stations and hydrogen refuelling stations, and help the development of low-carbon transportation and hydrogen energy transportation.
- Actively develop photovoltaic and wind power businesses, promote the in-depth integration between wind and solar "green electricity" and traditional businesses, and continue to increase the utilisation of "green electricity".
- By 2025, the supply capacity of new energy will strive to reach the equivalent of 10 million tonnes of standard coal.

Lead the green and low-carbon circular development of the industry

- Accelerate industrial structure adjustments, retire production capacity with high energy consumption and low-energy efficiency, and promote industrial upgrading and efficiency improvement.
- Actively develop molecular oil refining, green hydrogen refining, and continue to increase the utilisation of low-carbon raw materials.
- Accelerate the pace of natural gas and electricity replacement for coal, to promote a low-carbon energy structure.
- Strengthen the recycling of waste oil and grease, waste plastics, and waste rubber products, to encourage the recycle and reuse of resources.
- Adhere to the principle of prioritising conservation, continue to implement the Energy Efficiency Improvement Plan, and comprehensively implement the Energy Efficiency Leadership initiative to achieve global leadership in the energy efficiency of key products.

Promote breakthroughs in green and low-carbon technologies

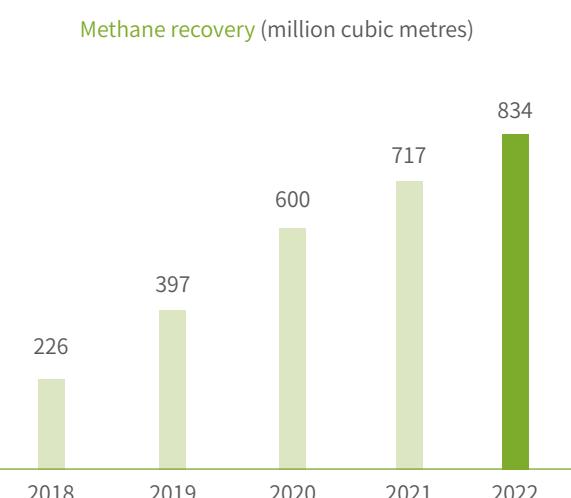
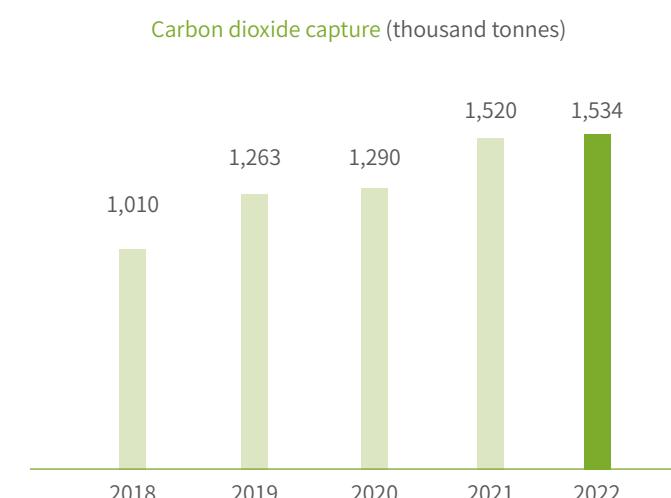
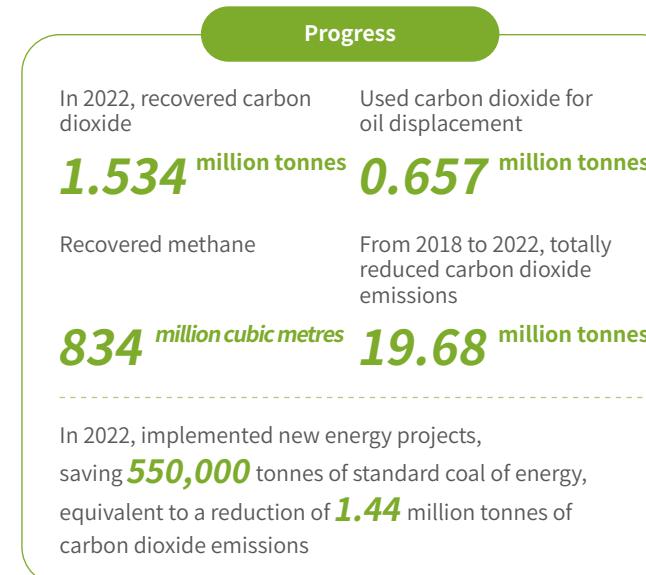
- Increase investment in R&D, develop complete sets of low-carbon processes and technologies, and promote the green and low-carbon transition of the petrochemical industry.
- Promote technological R&D and industrial applications for using carbon dioxide as raw material to produce methanol, lithium battery electrolyte, degradable plastics, and other chemical products and high-end materials.
- Continue to research and promote CCUS technologies, and leveraged the integrated operation of the Company to build a million-tonne whole industrial chain CCUS demonstration project.

Actively participate in the global response to climate change

- Carry out methane emission reduction actions, promote the detection and repair of methane leakage, increase the recovery and utilisation of venting gas, and enhance the transformation towards closed process.
- Establish an internal carbon price mechanism, integrate the green and clean strategy into the whole process of the Company's development and operation, and reduce the carbon footprint of the entire product life cycle.
- Actively carry out exchanges and cooperation with international petroleum corporations on green and low-carbon technologies, standards, and services to contribute the corporate practices to China's participation in global climate governance.

Indicators and Targets

In the Green Enterprise Action Plan, Sinopec Corp. has set greenhouse gas emission reduction targets for the period of 2018 to 2023, and was well on track to meet the greenhouse gas emission reduction targets in 2022.



Reducing GHG Emissions

Carbon Emission Monitoring and Management

Sinopec Corp. places a strong emphasis on monitoring and controlling GHG emissions, and it regularly assesses the carbon emissions of each subsidiary and establishes a scientific carbon asset management system. The Company has reduced GHG emissions by implementing "energy efficiency improvement" projects, researching and applying the CCUS technology, controlling methane emissions and implementing measures to strengthen the "dual control" management of the amount and intensity of energy consumption.

The Company continues to carry out GHG inventory audits and verification, which encompasses all production units and subsidiaries. Sinopec's Energy Conservation Monitoring Centre conducts internal auditing and verification of relevant data to ensure accuracy. The Company continues to optimise the accounting modules of the carbon asset management information system, streamline data collection processes, and complete the group-wide carbon audit and carbon verification of all devices, laying a solid foundation for formulating emission control measures.

Direct GHG emissions (Scope 1) and indirect GHG emissions (Scope 2) have been included in the scope of the audit process.

The carbon emission accounting shall comply with the ISO14064-1: 2006 standards, the *China Oil and Gas Production Enterprises Greenhouse Gas Emission Accounting Methods and Reporting Guidelines*, and the *China Petrochemical Enterprise Greenhouse Gas Emission Accounting Methods and Reporting Guidelines*.

Product Carbon Footprint

The Company prioritises the research and analysis of the carbon footprint of its petrochemical products. Utilising its internal resources and expertise, it has established carbon footprint accounting and evaluation methods and accounting models for products such as jet fuel, lubricant base oil, polypropylene, and xylene, as well as conducting a full-scale assessment of GHG emissions over the products' complete life cycle. In 2022, the Company completed the research on the carbon footprint of 16 products from 39 subsidiaries, and actively participated in the formulation of industrial standards, contributing to the transformation of corporate practice into feasible standards.

Green Agricultural Film

Featured Case

The plastic film plays a great important role in the agricultural production process in terms of temperature control, moisture retention and moisture preservation. To prevent the "white pollution" caused by the extensive use of plastic films, Sinopec Corp. leveraged the advantage of its "production, marketing, research and utilisation" integration and successfully developed a green agricultural film special material with low environmental pollution, strong weather resistance, affordable price, and recyclability, which not only increased production and income for farmers, but also promoted the local to achieve green and low-carbon development.

Sinopec Corp. also made full use of its own advantages in R&D capacity and resource supply to guide local recycling enterprises to process the residual films by "film-residue separation, granulation, and reprocessing", making the films into reusable recycled materials. Through the whole process of "raw material supply - film production - film paving - residual film recovery - recycling of recycled materials", the Company has formed a set of economic and propitable demonstration schemes for residual film pollution control, realised the cycle of "plastics - applications - raw materials - plastics", and significantly reduced the carbon footprint of the products.

The project not only helped the local to achieve green and low-carbon development, but also effectively promoted the increase of production and income for farmers. Since the establishment of a thousand-mu demonstration cotton field with high-strength weather-resistant film in Shaya County, Aksu City in April 2022, the Company has been tracking the operation of the cotton field together with local agricultural experts. During this period, the emerald cotton seedlings emerged neatly and kept growing well. The high-strength weather-resistant film paved was also in excellent condition, with almost no cracks. After cotton-picking, the head of the local cooperative said that the yield of the demonstration field was significantly better than that of the nearby fields, and the cotton blossomed earlier and whiter in colour with excellent quality. The yield per mu of the demonstration field has reached about 480 kg, a new high in recent years.

Energy Conservation

Strengthening Energy Management

The Company formulated and issued the *2022 Energy and Environment Responsibility Commitment*, implementing the target of "strictly controlling the total energy consumption and improving energy efficiency". The Company dynamically tracked the energy intensity and total consumption control indicators of its subsidiaries, implementing various energy efficiency measures to achieve its goals. In 2022, the Company implemented 479 "energy efficiency improvement" projects, saving 946,000 tonnes of standard coal. The consumption of comprehensive energy per RMB 10,000 of production value of the Company has reached 1.010 tonnes of standard coal, a year-on-year decrease of 0.5%.

The energy conservation target of Sinopec Corp.'s 14th Five-Year Plan: Reducing the consumption of comprehensive energy per RMB 10,000 of production value by 5% by 2025.

The Company has vigorously implemented the Energy Efficiency Improvement Plan to promote the integrated regional energy efficiency improvement of oil injection, production and transportation in oilfields, energy system optimisation, low-temperature heat utilisation and other energy conservation projects. The Company further strengthened energy measurement and statistics management, and the energy efficiency improvement and supervision over electromechanical equipment. The Company has carried out energy efficiency benchmarking activities, and developed an energy efficiency benchmarking index system, to encourage subsidiaries to strengthen energy efficiency management and improve energy efficiency. In addition, the Company organised subsidiaries to actively participate in the selection of Energy Efficiency "Front-runner" Enterprises organised by national and industrial associations. In 2022, several subsidiaries won the title of Energy Efficiency "Front-runner" Model Enterprises of the petroleum and chemical industry.

Energy Efficiency "Front-runner"
Ethylene Production Enterprises

Zhenhai Refining & Chemical Company

Energy Efficiency "Front-runner"
Refining Enterprises

Qingdao Refining & Chemical Co., Ltd.,
Guangzhou Petrochemical Company

Energy Efficiency "Front-runner" Xylene
Production Enterprises

Hainan Refining & Chemical Co., Ltd.

Energy Efficiency "Front-runner"
Enterprises of key energy-using industries in 2022

Key Energy Consuming Products
Energy Efficiency "Front-runner"
Model Enterprises of the petroleum and chemical industry in 2022

Case

Significant energy-saving benefits brought by material and equipment optimisation

In 2022, the Company revised the *Green Enterprise Construction and Re-Check Index (2022 version)*, conducted quantitative evaluation and improvement on the procurement of motor transformers, the utilisation of green packaging, the optimisation of material logistics, and the disposal of waste and used materials, and promoted the implementation of green enterprise action plans with high quality. By optimising the design of the motor structure and adjusting the selection principles of raw materials, the weight of a single shell of more than 500 motors of common specifications was reduced by 10%, the consumption of magnetic materials was reduced by 15%, the overall operating noise was reduced by 10 to 15 decibels, and the comprehensive energy efficiency was improved by 2.3%, saving 36.8 million kWh of electricity and reducing RMB 25 million of electricity bills annually.

Case

Guangzhou Petrochemical Company continued to implement the projects of energy conservation and carbon reduction

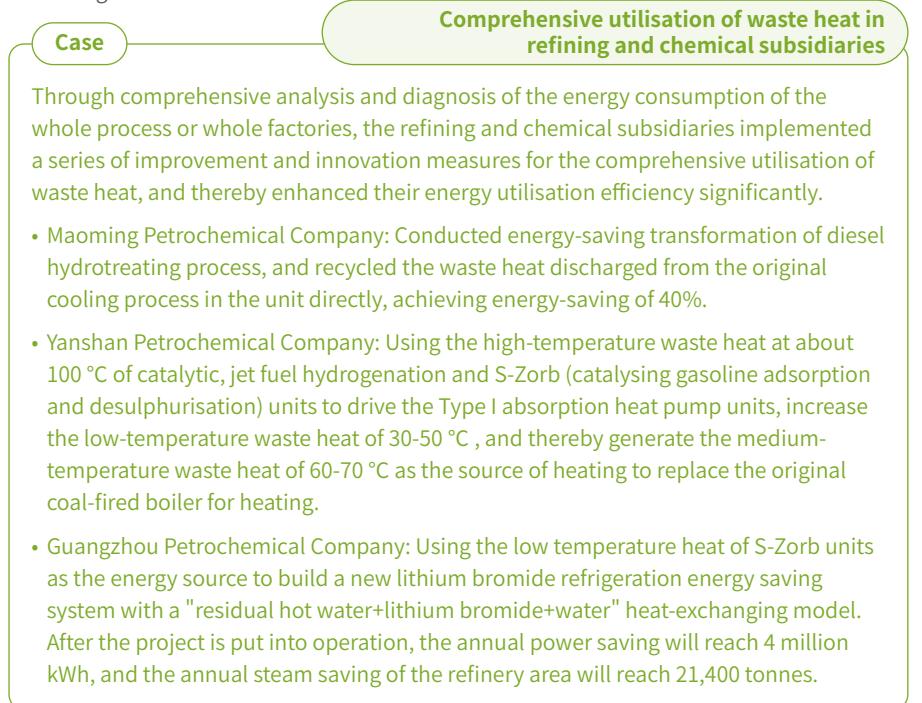
Guangzhou Petrochemical Company continued to promote the implementation of the *Measures for Building a World-Class Green Energy and Chemical Enterprise (Energy Saving and Carbon Reduction)*, formulated supporting plans and organised project implementation for water, electricity, steam, wind and other public engineering systems as well as waste heat and new energy utilisation, and sorted out and formulated 61 measures for First Class Achievements, with a total of 42 completed. Meanwhile, the company actively optimised the utilisation of resources, and accumulatively recycled 16,850 tonnes of standard oil in 2022, which is equivalent to reducing the comprehensive energy consumption of oil refining by 1.70 kg standard oil/tonne.

Strictly Controlling Coal Consumption

The Company implements strict measures to control the consumption of thermal coal, and formulated action plans for "energy conservation, carbon reduction, and efficiency upgrading" for coal-fired thermal power units. The plan focuses on replacing high-carbon fuels, enhancing operational efficiency, upgrading equipment, and optimising processes to ensure that the energy efficiency of coal-fired units is improved. The Company replaces high-carbon fuels such as coal and coke with low-carbon options such as natural gas and fuel gas, and promotes the cogeneration of heat and power and simultaneous cooling, heating, and power generation of natural gas. The Company has strengthened cooperation with neighboring enterprises to enhance heat and power utilisation, opting for more efficient outsourcing solutions instead of relying on self-generated heat and power.

Application of Energy-Saving and Low-Carbon Technologies

The Company continues to strengthen R&D and promotion of energy-saving and low-carbon technologies. Through research and innovation, the Company upgrades its energy-saving methods, technologies, and equipment, and actively participates in the creation of pilot and demonstration projects to showcase the effectiveness and potential of these technologies.



Carbon Capture, Utilisation and Storage (CCUS)

The Company continues to conduct key CCUS technologies and industrialisation application, and has intensified R&D investment and implemented key projects, actively promoting to build a demonstration project of the whole CCUS industrial chain. In 2022, refining and chemical subsidiaries continued to implement the recovery and utilisation of high concentration carbon dioxide generated during hydrogen production and synthetic ammonia production processes, resulting in the capture of 1.534 million tonnes of carbon dioxide. Oilfield subsidiaries used 657,000 tonnes of carbon dioxide for oil displacement and achieved remarkable results in reducing carbon and increasing oil extraction.

Indicator	2020	2021	2022
Carbon dioxide capture (10,000 tonnes)	129.0	152.0	153.4

The Qilu Petrochemical-Shengli Oilfield million-tonne CCUS project

The Qilu Petrochemical-Shengli Oilfield CCUS Demonstration Project launched by the Company in July 2021 was completed and put into operation in August 2022. This project is the first million-tonne CCUS project in China, which serves as a model for the integration of the whole

industrial chain and the upgrading of the value chain with the innovation chain. The project has established a series of technologies for the entire CCUS industrial chain that can be industrialised and scaled up, driving significant advancement in the industry.

Technical features of million-tonne CCUS project

- Innovatively put forward the CO₂ high-pressure miscible oil displacement technology, and establish the injection mode of "pressure displacement + alternative displacement of water and gas", which can effectively solve the problem of "no injection, no production, low recovery speed and low oil recovery" in low-permeability reservoirs, and improve oil recovery and CO₂ storage.
- Optimise the first set of high-efficiency low-temperature closed loop liquid injection equipment in China, and solve key technical problems such as zero emission, low-temperature measurement, partial pressure and partial injection.
- Develop and test the first set of dense phase injection device in China, filling the gap in equipment manufacturing and application in this field in China.
- Jointly research and develop localised liquid CO₂ multistage centrifugal transfer pump to ensure safe and stable long-distance high-pressure and normal temperature liquid phase CO₂ pipeline transportation.
- Develop intelligent control module of the gas injection station based on the oil and gas production command system to realise the production and operation mode of "unmanned, mobile patrol and centralised control" in the whole production region.
- Build CCUS oil casing pressure real-time monitoring and early warning module to realise real-time monitoring, analysis, abnormal early warning and disposal of injection-production end pressure.
- Build CCUS operation tracking management module to realise the summary query of gas injection and production conditions of blocks and single wells.



Qilu Petrochemical-Shengli Oilfield CCUS Demonstration Project is put into operation in Zibo, Shandong



East China Oil and Gas Company CCUS Peak Shaving Centre

Methane Emission Control

As a national pilot for carbon emission monitoring and assessment for the oil and gas extraction industry, Sinopec Corp. formulated the *Sinopec Implementation Plan of Methane Monitoring and Assessment Pilot Projects*, and implemented a series of measures, including personnel monitoring, satellite remote sensing, cruising observation, drone sensing, etc., to monitor the methane concentration in escape, process venting, and flare combustion. At the same time, as a member of the China Oil and Gas Methane Alliance, the Company actively undertakes the tasks of the methane detection working group of the alliance. In 2022, the Company selected Shengli Oilfield, Zhongyuan Oilfield, Southwest Oil and Gas Branch and other oil and gas fields to carry out methane detection, and collate and analyse the detection data, laying a solid foundation for the methane emission data statistics and the development of methane emission reduction measures. In 2022, our oilfield subsidiaries recovered approximately 834 million cubic metres of methane, which was the equivalent to a greenhouse gas emissions reduction of approximately 12.5 million tonnes of carbon dioxide.

Oilfield subsidiaries

By continuously strengthening the application of closed-loop mixed transmission process, we vigorously implement the recovery of casing gas, promoted the comprehensive utilisation of flare gas, and strengthened the recovery from remote scattered wells, thereby reducing methane emissions.

Refining and chemical subsidiaries

Refining and chemical subsidiaries continued to carry out flare elimination, promoting process management stability and efficiency and reducing flare discharge caused by production fluctuations and unexpected shutdown, and made full use of information technology to strengthen the balance management of high and low pressure gas and hydrogen, reducing the flare discharge caused by excess gas or hydrogen. In addition, refining and chemical subsidiaries optimised startup and shutdown operations, implemented closed purging measures, reducing or even eliminating the discharge of flare, strengthened bench-marking management, and established flare venting time and venting loss indicators in the refining production technology management system, urging subsidiaries to strengthen relevant management.

Indicators (million cubic metres)	2021	2022	Year-on-year
Methane recovery	717	834	+16.3%
Methane emissions	299.90	253.79	-15.4%
Oil & gas exploration and production segment	269.88	222.32	-17.6%
Refining and chemicals segment	10.01	11.06	+10.5%
Marketing segment	20.01	20.41	+2.0%

Participating in Carbon Trading

Sinopec Corp. actively participated in the national carbon emission trading market, formulated and implemented the *Sinopec Carbon Trading Administration Measures*, and standardised the fulfilment of carbon quotas. The Company established a dedicated carbon trading team, made comprehensive arrangement based on carbon quota surpluses and shortages of its subsidiaries, formulated carbon trading plans scientifically, and centralised management of carbon trading, ensuring that all its subsidiaries fulfilled their carbon quotas on schedule. In 2022, Sinopec Corp. had 15 subsidiaries participated in the national carbon trading market, and 19 subsidiaries participated in pilot regional carbon trading market, with a carbon trading volume of 2.41 million tonnes.

Forest Carbon Sink

Sinopec Corp. actively practises the concept of green development, vigorously promotes corporate greening management, and enhances the greening of its facility. The Company guides and encourages its employees to participate in tree-planting activities to increase forest reserves and maximise the positive effects of forests on carbon storage and ecological improvement. In line with this commitment, Shanghai Petrochemical Co., Ltd., Zhenhai Refining and Chemical Company, Tianjin Oil Products Company, Ningbo Engineering Co., Ltd., and other Sinopec subsidiaries participated in the "Ecological Protection and Restoration of the Yellow River Basin - Special Action for Voluntary Tree Planting" demonstration project launched by the Office of the National Greening Commission and donated nearly RMB 500,000 to help improve the ecological environment and land greening of the Yellow River Basin.

In 2022

The total amount of green space was

118.05 million square metres

The area of newly built or restored green space was

1.869 million square metres

The greening rate of the industrial area of the Company was

28.5%

The green coverage rate was

32.3%

Employee volunteers planted

1.939 million trees

Case Sinopec Corp. launched the "Internet + Voluntary Tree Planting" project of Saihanba Ecological Demonstration Forest

In March 2022, before Tree Planting Day, Sinopec Corp. and the China Greening Foundation launched the Sinopec Saihanba Ecological Demonstration Forest "Internet + Voluntary Tree Planting" project on the platform of the National Voluntary Tree Planting official website. The project received warm responses from the Company's employees and the public. More than 154,000 people participated in the donation and raised a total of RMB 6.75 million. The Company adjusted the implementation plan according to the scale of funds, and planned to implement the afforestation area of 1,600 mu, plant 263,600 trees, build 17.3 kilometres of forest roads and erect 20.1 kilometres of fences within 2 years.

In May 2022, the construction of the ecological demonstration forest project was officially implemented. By the end of 2022, the Company has completed 1,000 mu of land preparation and afforestation and 13.1 kilometres of management and protection fence, and planted 162,500 trees.

Promoting Energy Transition

Green and Clean Energy Strategy

Sinopec Corp. takes "green and clean" as one of its development strategies, adheres to ecological priority, green transition, and clean development, actively promotes energy transformation and development, and commits to constructing a clean and low-carbon modern energy supply system and a safe and efficient production, supply, storage, and marketing system, to achieve clean, diverse, and safe energy supply.

Oilfield subsidiaries

Aiming at achieving the goal of "low-carbon energy for production, and clean energy for consumption", developed and used clean energy such as wind energy and solar energy available onsite, and continued to enhance low-carbon development capabilities of the subsidiaries.

Refining and chemical subsidiaries

Actively implemented centralised wind power and photovoltaic generation projects on refining and chemical industrial facilities, carried out the "large-scale renewable energy power generation - energy storage - hydrogen production with green electricity" project, and gradually promote green power utilisation and green hydrogen refining, so as to achieve in-depth decarbonisation in the refining and chemical sectors.

Marketing subsidiaries

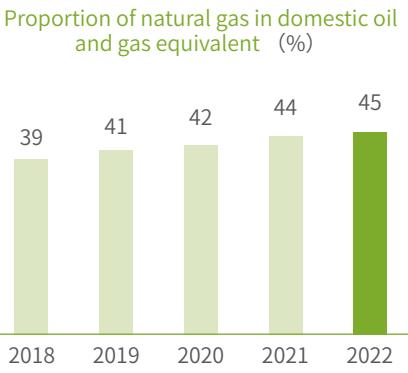
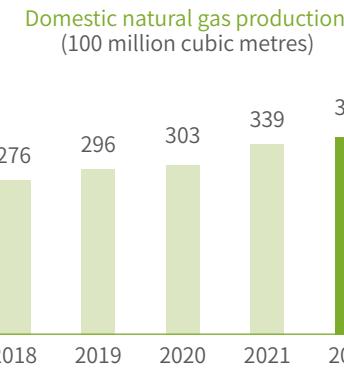
Explored hydrogen energy application scenarios, invested in key processes of hydrogen production, storage and transportation, and filling, strove to gradually expand the proportion of green hydrogen supply, and actively constructed distributed photovoltaic power generation projects.

Natural Gas

As a fossil energy with low carbon emission intensity, natural gas plays a key role in the process of energy transition towards green and low-carbon development. The Company accelerates the construction of natural gas production, supply, storage and marketing, and continues to enhance the natural gas supply capacity. In 2022, the Company's newly built natural gas production capacity reached 7.44 billion cubic metres, a year-on-year increase of 610 million cubic metres. The production of natural gas was 35.3 billion cubic metres, a year-on-year increase of 1.38 billion cubic metres. In the future, the Company will continue to expand the scale of natural gas business, and improve the supply capacity of natural gas and its proportion in oil and gas production.



Tianjin LNG Terminals



Hydrogen Energy

The development of hydrogen energy is one of the essential paths to achieve the transformation of global energy structure to cleaner and low-carbon models. With its extensive industry experience and competitive advantages in the hydrogen energy sector, Sinopec Corp. is strategically positioned to capitalise on the major opportunities for the development of hydrogen energy. The Company is accelerating the development of hydrogen energy as a core business of its new energy portfolio, with a particular focus on the utilisation of clean transportation energy and green refining hydrogen energy, and strives to build China's largest and leading hydrogen energy company with leading technologies and first-class management.

The Company leverages its industry, technology, and network resources to establish a comprehensive industrial chain of hydrogen energy production, purification, transportation, and sales. Its oilfield subsidiaries are actively developing green electricity for hydrogen production, while its refining and chemical subsidiaries are focused on building national fuel-cell electric vehicle demonstration city clusters, and promote the construction of fuel cell hydrogen supply centres by utilising by-product hydrogen resources. Meanwhile, its marketing subsidiaries are actively and steadily promoting the hydrogenation business, and collaborating with research institutions and relevant enterprises to jointly promote the construction of China's modern hydrogen energy industrial chain.

Sinopec's 2050 Hydrogen Energy Vision

Hydrogen energy mobility

- Maintain the largest number of hydrogen refuelling stations and the largest hydrogen refuelling capacity in the country; 100% of hydrogen produced with non-fossil energy; develop a fully functional and nationwide low-carbon transportation energy supply network to help the national road transportation system achieve carbon neutrality.

Green hydrogen refining

- 100% of the hydrogen used by refineries is blue hydrogen or produced with non-fossil energy, and help Sinopec Corp. achieve its carbon neutrality target with high quality through green hydrogen refining.

Progress and Achievements of Hydrogen Energy Business in 2022

Hydrogen Production

- The first proton exchange membrane (PEM) hydrogen production demonstration unit with a capacity 30 normal cubic metres/hour and the first megawatt level (200 Nm³/h) PEM hydrogen production unit have been put into use in Yanshan Petrochemical Company.

Hydrogen Supply

- As of the end of 2022, nine hydrogen supply centres had been built to provide high-purity hydrogen for fuel cells, with a capacity of 19,000 normal cubic metres/hour (about 16,500 tonnes per year).
- During the Beijing 2022 Olympic Winter Games, Yanshan Petrochemical Company and Tianjin Petrochemical Company ensured the hydrogen demand for the event. The four hydrogen refuelling stations added 87 tonnes of hydrogen to the vehicles for the Olympic Games, serving 8,689 vehicles, effectively guaranteeing the hydrogen energy supply for the Beijing Olympic Winter Games.

Hydrogen Refuelling Station

- As of the end of 2022, the Company has built and operated 98 hydrogen refuelling stations, with a total hydrogen refuelling capacity of about 45 tonnes/day, making the Company with the most hydrogen refuelling stations in the world.

Case

Clean energy boosting green Winter Olympics

To ensure the supply of oil, gas and hydrogen for the Beijing 2022 Olympics and Paralympic Winter Games, the Company has built three new hydrogen refuelling stations and one oil and hydrogen mixing station, and rebuilt 49 oil stations of Beijing Oil Products and Hebei Oil Products for the Winter Olympics. Four hydrogen refuelling stations, three CNG stations, two LNG stations and 15 gas stations have been set as the supply guarantee stations. The Company served 5,000 Winter Olympic vehicles in total for more than 30,800 times of refuelling services and provided 1,100 tonnes of diesel, hydrogen and natural gas.

Case

Sinopec's first short-pipeline hydrogen transmission station was put into operation

In September 2022, Sinopec's first short-pipeline hydrogen transmission station, the Pinghu Binhai Comprehensive Energy Station in Jiaxing City, Zhejiang Province, was put into operation. Relying on the advantages of integration, the station actively constructs the application scenario of hydrogen energy transportation, realising the pipeline hydrogen transmission within the station. The pipeline is 1.7 kilometres long and the pressure is 1.2 MPa. It can effectively reduce energy consumption while improving the safety of the hydrogen refuelling station. The station can also serve as a hydrogen parent fueling station, and provide filling services for 5-6 tube trailers every day, realising the wholesale function of hydrogen filling, and improving energy efficiency and economic benefits of the hydrogen refuelling station.

Photovoltaic Project

- Sinopec's marketing subsidiaries have continued to promote the construction of Building Integrated Photovoltaic (BIPV) systems, fully utilising the spare space on canopies and rooftops of over 30,000 gas stations nationwide. The Company has developed distributed photovoltaic power generation, built "Carbon Neutral" gas stations, and fully combined photovoltaic power generation with energy conservation, carbon reduction, and brand marketing.
- Sinopec's oilfield subsidiaries continue to promote the large-scale photovoltaic power generation, and have developed a regional energy management mode of "waste heat + photovoltaic + oil production" and other multi-energy complementation and the "load and storage between source and network" integration for oil and gas fields. Shengli Oilfield has successfully commissioned a 100 MW distributed photovoltaic power generation project, increasing the installed capacity of photovoltaic power generation by 186 MW throughout the year and annual power generation capacity by 120 million kWh, and reducing annual carbon dioxide emission by 104,000 tonnes.
- Sinopec's refining and chemical subsidiaries have been actively developing centralised photovoltaic resources in the surrounding areas. As of the end of 2022, the Company has 30 photovoltaic projects under construction and in planning, with a total capacity of 246 MW.

In 2022

Number of photovoltaic power generation stations newly built

1,199

A total new installed generation capacity of

44.2 MW

As of the end of 2022

Number of distributed photovoltaic power generation projects accumulatively built

2,452

Installed capacity

88 MW

Number of carbon-neutral energy stations built

23

Number of carbon-neutral oil depots built

3

By 2025

Number of distributed photovoltaic power generation stations built

7,000

Generating power to serve both the energy needs for the stations and the charging needs for electric vehicles



Shijiazhai Station, Yunnan Honghe Oil Products Company's Carbon-Neutral Energy Station, is put into operation



The largest photovoltaic power generation projects of Shengli offshore oil field is synchronised to the grid for power generation

Case

Qingdao Refining and Chemical Co., Ltd. made use of its geographical advantages to vigorously promote photovoltaic power generation projects

In 2022, Qingdao Refining and Chemical Co., Ltd. vigorously promoted new energy utilisation projects by leveraging the natural conditions of Qingdao, a region rich in solar energy resources and suitable for the construction of photovoltaic power stations. The first project is the "rooftop photovoltaic power generation project", which installed photovoltaic modules on the roof of office buildings and other buildings by adopting the technical scheme of zonal power generation and nearby grid connection. The installed capacity was about 0.773 MW. It is estimated that the annual power generation will reach 800,000 kWh, and the annual carbon dioxide emissions will be reduced by about 465 tonnes. The second project is the "regional photovoltaic power generation project", which took the area of open space such as parking lot to install the photovoltaic car shed by adopting the technical scheme of zonal power generation and nearby grid connection. The installed capacity was about 1.32 MW. It is estimated that the annual power generation will reach 1.55 million kWh, and the annual carbon dioxide emissions will be reduced by about 901 tonnes. The total installed capacity of the above two photovoltaic power generation projects was about 2.1 MW, achieving 934,100 kWh of cumulative power generation and reducing 543 tonnes of carbon dioxide emissions by the end of October.



Green Electricity Transaction

In 2022, subsidiaries such as Northwest China Petroleum Bureau, Jianghan Oilfield, Maoming Petrochemical Company, Luoyang Petrochemical Co., Ltd., Guangzhou Petrochemical Company, Yangzi Petrochemical Co., Ltd., Jingmen Petrochemical Company and Zhongke Refining and Petrochemical Co., Ltd. actively carried out "green electricity" transactions, with a trading volume of green electricity exceeding 3 billion kWh.

Case

Qingdao Refining and Chemical Co., Ltd. actively participated in "green electricity" pilot transaction

Qingdao Refining and Chemical Co., Ltd. actively carried out research on "green electricity" trading policies in the power market, and actively coordinated the trading centre, power selling companies and new energy power generation enterprises. The company became one of the first enterprises in Shandong Province to participate in the green electricity transaction and obtain a green electricity consumption certificate, and was one of the first units to have the qualifications for the "green electricity" pilot transaction in Shandong Province in 2022. In March 2022, the company completed "green electricity" transaction of 5 million kWh and obtained the green electricity consumption certificate issued by the Beijing Power Exchange Centre, opening a "new chapter" for the company's energy conservation and carbon reduction efforts.



Biomass Energy

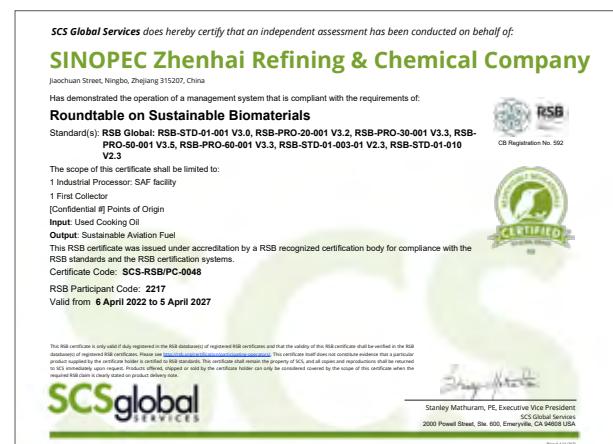
Sinopec Corp. actively explores the research and application of bio-jet fuels and increases the production, promotion and supply of biomass energy.

Case

Sinopec Zhenhai Refining and Chemical Company built China's first bio-jet fuel production facility with a production capacity of 100,000 tonnes/year and won the first global RSB certification in Asia

Carbon emissions resulting from the combustion of jet fuel account for approximately 79% of the total aviation transport industry emissions. Therefore, the adoption of more environmentally friendly and sustainable jet fuel has become crucial to reducing carbon emissions in the civil aviation industry. Bio-jet fuel, generated from renewable resources such as vegetable oils, animal fats, and catering waste oil, is a sustainable alternative to traditional petroleum-based jet fuel. Over the course of its life cycle, bio-jet fuel can reduce carbon emissions by more than 50% compared to traditional jet fuel.

In August 2020, Zhenhai Refining and Chemical Company completed the construction of China's first bio-jet fuel production facility with a production capacity of 100,000 tonnes/year. In April 2022, the facility was awarded Asia's first global Roundtable on Sustainable Biomaterials (RSB) sustainable bio-jet fuel certificate by SCS, an international certification body. In September of the same year, the facility became the first to receive the domestic bio-jet fuel airworthiness certification, allowing it to be put on the market as a sustainable alternative to traditional jet fuel. Zhenhai Refining and Chemical Company has partnered with many airlines to use the produced sustainable jet fuel in commercial flights at home and abroad. Compared with traditional jet fuel, bio-jet fuel reduce carbon dioxide emissions by up to 85% through the whole life cycle.



Layout of New Energy Vehicle-Related Businesses

Sinopec Corp. actively embraces the electric, intelligent and networking development trend of new energy vehicles, and continues to promote the construction of charging and replacement stations based on the location advantage of its gas stations. The Company plans to **build 5,000 charging and replacement refuelling stations by 2025**. It cooperates with relevant enterprises to build replacement refuelling stations and actively promote the power bank service.

In 2022, **959** charging stations and **45** replacement stations have been built.

The annual cumulative charging and replacement capacity was **170 million kWh**, a year-on-year increase of **272%**.

By the end of 2022, the Company had built **2,171** charging stations and **128** replacement stations.

Case

Sinopec Corp. built the first heavy truck replacement station

In July 2022, Sinopec Corp. constructed its first heavy truck replacement station at the Baijiawang Comprehensive Energy Station in Yibin, Sichuan. The station provides battery replacement services for trucks transporting ore, commercial concrete, and waste in the surrounding areas. The replacement station uses a top-mounted battery replacement mode and carries seven 282 kWh power batteries, each capable of supporting vehicle operations for approximately 150 kilometres. Since every single battery replacement needs to take about 3 minutes, the station is able to meet the battery replacement demands of 168 electric heavy trucks per day.

The completion and operation of the heavy truck replacement station mark Sinopec's entry into the field of "heavy truck battery replacement". This move follows the Company's successful development of businesses in hydrogen energy, photovoltaics, and automobile charging and replacement, and is another substantive step in its transformation into an integrated energy service provider for oil, gas, hydrogen, electricity, and non-fuel businesses.

Case

Comprehensive services for customers at the Lianhua Charging Station in Fujian Province

In September 2022, Fujian Longyan Lianhua Charging Station was put into operation. The station features a photovoltaic canopy that integrates light and charge technology, generating up to 370 kWh of power daily. With 24 parking spaces and charging infrastructure, the station's group charging and control technology equipment delivers a maximum output of 180 kW per pile, enabling the complete charging of a family car within just 25 minutes. In addition, there are rest areas in the station, with vending machines, WIFI, tea-house, coffee machines and other facilities, providing customers with comprehensive and diversified services.

Sinopec Corp. has deepened the integration of IUR (Industry-University-Research), to drive technological innovation in lightweight materials for automobiles. This collaborative effort has led to the establishment of a joint centre for automobile lightweight non-metallic materials, with research conducted on the lightweight processing technology of synthetic resin, synthetic rubber, synthetic fibre, and other composite materials and products. Additionally, Sinopec Corp. has developed a high-value recycling technology for waste plastics, successfully recycling and utilising automobile lightweight materials, and effectively reducing the carbon footprint. The Company has successfully developed functionalised solution-polymerised styrene-butadiene rubber for green tires, hydrogenated styrene butadiene thermoplastic elastomer for automotive skin, high thermal conductivity rubber for non-pneumatic tires, and ultra-low-pressure ethylene-propylene rubber/polypropylene dynamic vulcanised rubber materials, further enriching the types of Sinopec's lightweight rubber products.

03

Protecting the Environment

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Environmental Protection Management and Targets

Environmental Management System and Targets

Policy Assurance

The Company continues to improve the HSE (Health, Safety and Environment) management system, and officially issued the *Manual for the HSE Management System* in 2022. Each subsidiary has issued its specific version of the manual according to its own production and operation characteristics. These manuals form the foundation of the environmental protection system, consisting of 16 core policies as the main body, including the *Measures for the Environmental Information Management*, the *Measures for Ecological Environment Events Management*, the *Measures for Accountability of Ecological Environment Events Management*, the *Measures for Response to Environmental Emergency Risk and Management*, the *Measures for Radioactive Accident Management*, etc.

System Assurance

The Company set up a team of HSE management system auditors to regularly review the system documents of its subsidiaries. By the end of 2022, a total of 28 subsidiaries of the Company had obtained the certification of the ISO14000 environmental management system. In 2022, the Environmental Protection Sub-Committee of the HSE Management Committee implemented a series of measures aimed at optimising the monitoring indicators of environmental protection. These measures included monthly tracking and analysis of indicators, with improvements and rectifications made as necessary, promoting the completion of 17 research topics and key tasks, completing the professional review of 7 first-level environmental protection enterprise standards, and gradually improving the Company's environmental protection standard system. In addition, the Company formulated a special supervision mechanism for ecological and environmental protection, and appointed environmental protection supervisors to carry out special supervision on 30 subsidiaries including oil and gas field subsidiaries, refining and chemical subsidiaries and marketing subsidiaries, to identify the shortcomings of environmental protection management, put forward systematic solutions, raise the awareness and ability of all employees in ecological and environmental protection, and demonstrate its commitment to fulfilling its ecological and environmental protection responsibilities.

The Green Enterprise Campaign

Sinopec Corp. launched the "Green Enterprise Campaign" in 2018 as an essential step in implementing its green and clean development strategy. In 2022, the Company made significant headway by implementing various measures under the campaign with particular emphasis on the grassroots level. All subsidiaries were directed to establish green grassroots units, resulting in comprehensive consolidation of the foundation for green development. Indicators such as clean energy, green products, resource and energy utilisation, pollutant emissions, GHG emissions, and facility greening were completed as planned. 12 subsidiaries were awarded the title of "Sinopec's Green Enterprise" in 2022. By the end of 2022, the Company had established 114 green enterprises, and 19,900 green grassroots units, meeting the annual goals and requirements.

Targets for 2023

Water resources management targets

Striving to reduce the amount of fresh water withdrawal for industrial use by no less than **1%** per year

Effluents and emissions management targets

	Ammonia-nitrogen reduction	COD reduction	SO ₂ reduction	NO _x reduction
	12%	12%	18%	18%

Note: Taking the 2017 data as baseline data.

Management of Environmental Impact

The Company continues to strengthen the management of environmental impact. To this end, it has formulated regulations such as the *Measures for Environmental Management*, the *Measures for Ecological Management*, the *Measures for Environmental Management of Construction Projects*, and the *Management Regulations for Environmental Protection Inspection after Completion of Construction Projects* to strengthen the environmental protection management throughout the construction projects and minimise any negative impact on the surrounding ecological environment and communities.

Project Evaluation

- Strictly checked on the environmental protection-related content within the feasibility studies and the design of construction projects in the report, such as the identification of environmentally sensitive targets, pollution prevention and control measures, ecological protection measures, strictly controlled the total amount and intensity of energy consumption and other environmental indicators of projects, took the environmental protection feasibility as the foundation of the project feasibility studies and design approval, and improved the environmental protection efficiency of construction projects.

Construction

- Adopted green construction plans, conducted special action to improve the standardised management of solid waste at construction sites, and clarified and strictly implemented the measures of "three simultaneities" for environmental protection.

Environmental Monitoring

- All production facilities belonging to the upstream, midstream and downstream subsidiaries of the Company, including their subordinate units, have obtained the pollutant discharge permits or have completed the registration of the pollutant discharge permit information. Relevant information is available on the national management information platform for pollutant discharge permit.
- Key pollutant discharge units have cooperated fully with regulatory authorities to conduct monitoring activities. The units have installed online monitoring facilities that transmit real-time data to national and local regulatory platforms.

Clean Production

- Actively implemented the national *Notice on the In-Depth Implementation of the Clean Production Audit Work in Key Industries*, continued to optimise clean production related systems and processes, and supervised and guided subsidiaries to continuously reduce the total amount of pollutant emissions.
- Cleaned the waste materials and garbage on the construction sites after completing the project according to the principle of "work completed, material collected, site cleaned", and recycled the waste as much as possible.

Emergency Response

- Formulated the *Guidelines for the Preparation of Emergency Plans for Emergent Environmental Incidents* and the *Guiding Opinions on the Provision of Emergency Supplies for Emergent Environmental Incidents* to ensure timely and proper treatment of environmental incidents to reduce pollution loss and mitigate the ecological damage.

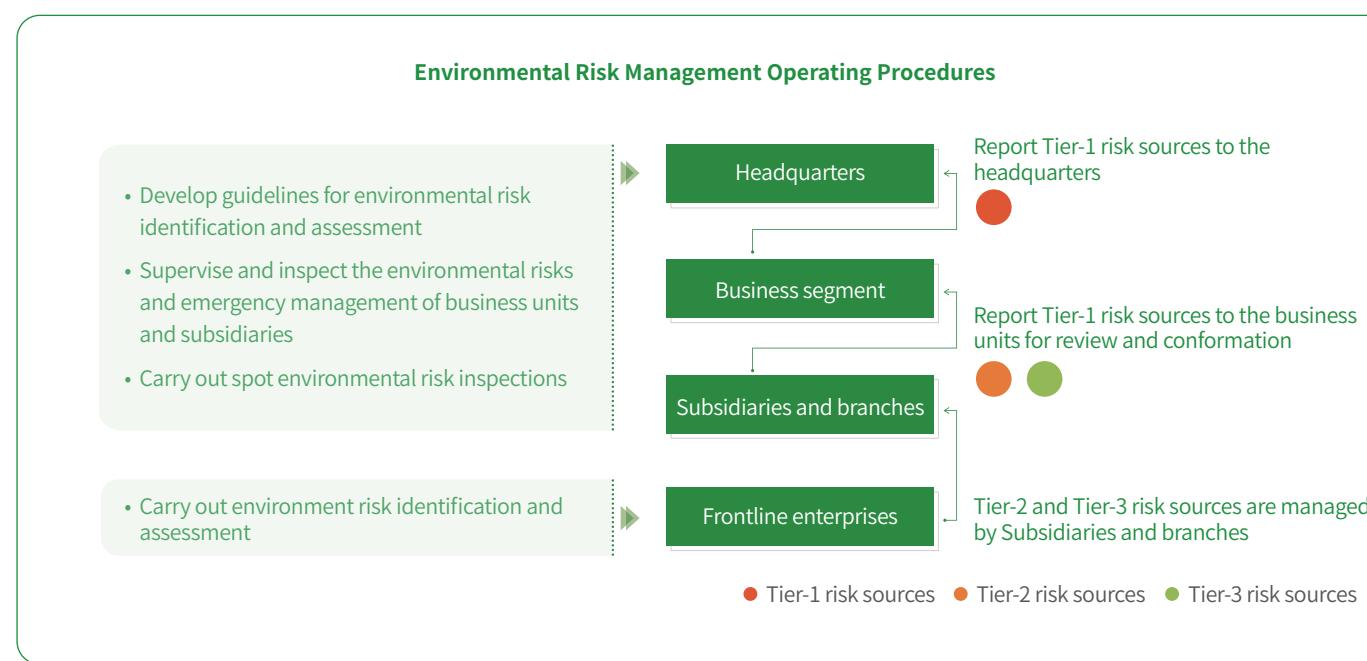
Project Exit

- Standardised the conduction of environmental protection inspection after completion, and controlled the audit and verification pass before the project is officially put into production.
- Conducted post-environmental impact assessments as required, carried out ecological rectification and restoration according to the assessment results, and continuously improved the environmental protection management level of the whole life cycle of construction projects.

Environmental Risk Management

Sinopec Corp. organises and conducts annual environmental risk identification and assessment to comprehensively prevent and control various environmental emergency risks. The Company has optimised the environmental risk identification and assessment methods and processes by assigning risk control capability index, risk index correction coefficient, and environmental risk level distribution. The Company has also prepared the *Technical Guidelines for the Assessment of Environmental Emergencies Risk Index*, and organised its subsidiaries in all sectors to carry out trial assessments.

In 2022, the Company identified a total of 41 Tier-1 environmental risks. Through the formulation and implementation of a tiered environmental risk management and control plan, as well as by implementing environmental risk management and control accountabilities and addressing potential environmental risks, the Company successfully degraded 30 of these risks, accelerating the withdrawal of facilities in the ecological protection red-line areas.



Environmental Complaint and Handling Mechanism



The employees of Shengli Oilfield Hekou Oil Production Plant conduct intensive inspections on the oil pipelines

The Company attaches great importance to communications with stakeholders such as local government and community members, establishes the environment complaint mechanism, discloses environmental information and sets up the 24-hour complaint hotline at key well sites and stations, and takes the initiative to accept social supervision. In the *Sinopec Environmental Protection Management Regulations*, the Company stipulates that "With regards to negative environmental information on environmental issues such as being listed on national and local government supervisory agendas, receipt of notices or environmental administrative penalties, excessive amounts beyond standards and violations found in government supervision and monitoring at all levels, being sued for environmental issues or being exposed by the media, etc., the Company shall report the information through the environmental protection information system within three working days. Late reporting or concealment of information shall be severely punished". Through the appointment of external community supervisors and regular and occasional seminars, all subsidiaries have established the mechanism to engage local communities and the public to collect and handle opinions and make feedback. Significant environmental incidents shall be promptly reported to relevant departments at the headquarters to promote its rectification through the joint working mechanism.

Water Resources Management

Adhering to the water resource management principle of "prioritising conservation and balancing the production and supply", Sinopec Corp. formulated and implemented the *Measures for Water Resources Conservation* and aims to reduce the amount of freshwater for industrial use by 1% annually. Additionally, the Company systematically optimises the water consumption structure, implements the project of replacing clean water with wastewater, and strengthens the reuse of sewage and wastewater. Moreover, the Company attaches great importance to the investigation and monitoring of groundwater to prevent groundwater pollution.



Water Conservation

Sinopec Corp.'s industrial water mainly comes from surface water, groundwater and municipal water supply. The Company has obtained water withdrawal permits for all of these sources.

The Company strictly abides by the *Water Law of the People's Republic of China*, the *Regulation on the Administration of the License for Water Drawing and the Levy of Water Resource Fees*, the *Administrative Measures for the Water Resources Testimony of Construction Projects* and other policies and regulations. The Company has formulated and implemented the *Sinopec Measures for Water Resources Conservation*, the *Guidelines for Water Conservation in Sinopec's 14th Five-Year Plan* and other documents, formulated water conservation plans according to the principle of "one specific plan for one subsidiary", and continued to strengthen water conservation management, adopting more economical and intensive water use modes, comprehensively improving water efficiency and effectiveness, and building water-saving enterprises.

To ensure the effectiveness of the ecological protection in the Yangtze and Yellow River basins, the Company has undertaken a comprehensive study and formulated the *Action Plan to Further Advance the Ecological and Environmental Protection and Restoration of the Yangtze River basin* and the *Guiding Opinions on the Ecological Environment Protection of Enterprises in the Yellow River Basin*. The Company has established clear ecological protection responsibilities for the Yangtze and Yellow River basins, including developing water conservation and emission reduction plans for subsidiaries located in the basins, and compiling a list of related issues to promote relevant subsidiaries to strengthen water conservation and emission reduction.

In 2022, the Company's industrial freshwater consumption was 629.10 million cubic metres, a year-on-year decrease of 1.1%. In the selection of the 2022 Water Efficiency "Front-runner" Enterprise in petroleum and chemical industry, 8 subsidiaries of the Company including Jinling Petrochemical Company, Qingdao Refining and Chemical Co., Ltd., Shijiazhuang Refining and Chemical Company, Zhenhai Refining and Chemical Company were named as Water Efficiency "Front-runner" Model Enterprises.

Water Efficiency "Front-runner" Enterprise of national key water-using enterprises in 2022

Water Efficiency "Front-runner" Petroleum Refining Enterprises	Qingdao Refining & Chemical Co., Ltd., Tianjin Petrochemical Company, Qingdao Petrochemical Co., Ltd., Zhenhai Refining & Chemical Company
Water Efficiency "Front-runner" Ethylene Production Enterprises	Sino-Korea (Wuhan) Petrochemical Co., Ltd., Zhenhai Refining & Chemical Company, Yanshan Petrochemical Company, Shanghai SECCO Petrochemical Co., Ltd.
Water Efficiency "Front-runner" Coal-to-methanol Enterprises	Sinopec Great Wall Energy & Chemical (Ningxia) Co., Ltd.

Water Efficiency "Front-runner" Model Enterprises of the petroleum and chemical industry in 2022

Water Efficiency "Front-runner" Refining Model Enterprises	Jinling Petrochemical Company, Qingdao Refining & Chemical Co., Ltd., Shijiazhuang Refining & Chemical Company
Water Efficiency "Front-runner" Ethylene Production Model Enterprises	Maoming Petrochemical Company, Zhenhai Refining & Chemical Company, Sino-Korea (Wuhan) Petrochemical Co., Ltd.
Water Efficiency "Front-runner" Coal-to-olefin Model Enterprises	ZTHC Energy
Water Efficiency "Front-runner" Coal-to-methanol Model Enterprises	Sinopec Great Wall Energy & Chemical (Ningxia) Co., Ltd.

Water Withdrawal Control at the Source

- Adhered to the principle of determining production volume based on the water use plan, strengthened the constraints on the carrying capacity of water resources and water environment, planned rational development layout and scale, optimised and adjusted the industrial structure.
- Supervised subsidiaries to establish standing books of water withdrawal points and water withdrawal permits, formulated and tracked the implementation of rectification measures to troubleshoot any problems, ensuring that the water is taken in according to permits.
- Optimised water consumption structure, used unconventional water resources to replace fresh water, and reduced the consumption of fresh water.

Water Resources Recycling

- Optimised the operation of the water circulation system, and reused water as replenishment water to reduce the make-up rate of fresh water.
- Conducted rainwater and sewage diversion upgrade, visualised sewage pipe network upgrade, and sewage plant upgrade, built the information module of sewage and rainwater pipe network, and increased the intensity of sewage reuse.
- Promoted subsidiaries at all levels to strengthen the utilisation of sewage resources and reduce external drainage through technological innovation, process improvement and other methods.

Water Consumption Metering Management

- Vigorously conducted water balance test and leakage detection and elimination of water supply pipe networks, upgraded and transformed old pipelines, to reduce water loss due to leakage.
- Improved the water supply and consumption metering system and enhanced the level of water consumption informatisation.

Sewage Treatment

The Company comprehensively promotes clean production, strengthens the management of water pollution prevention and control facilities, and improves water pollution prevention and control in a way stricter than national and local discharge standards, with a focus on strictly controlling the risk of water pollution. As required by the government, to monitor water pollutant discharge in real-time, the Company has implemented early warning and alarm systems to quickly detect and manage issues, to achieve the standard discharge of water pollutants.

In 2022, the annual comprehensive wastewater compliance rate of all subsidiaries of the Company was 100%, with the total amount of water pollutant discharge constantly decreasing.

Case

Improving water efficiency and building water-saving enterprises

- Guangzhou Petrochemical Company: Conducted the high - low salinity sulfur-containing sewage source-separated treatment, and controlled the discharge of sulfur-containing sewage, achieving 100% reuse of low salt sulfur-containing sewage, reducing the external discharge of sewage by 30.3%, increasing the amount of recycled sewage by 16.1% and the sewage reuse rate from 62% to 68%, and saving more than RMB 3.8 million annually.
- Zhenhai Refining and Chemical Company: Controlled the concentration of suspended solids in the desulphurised purified water and increased the reuse amount of the purified water during the water injection process of the hydrogenation unit, which raised from 9.1m³/h to 54.1m³/h. Increased the reuse amount of the power centre's up-to-standard discharged sewage by optimising pipe network and improving water treatment scheme, with the highest reuse rate of 75%.

Groundwater Management

In 2022, the Company completed the review of the corporate standard *Technical Specification for Groundwater Investigation and Evaluation of Land for Corporate Use*. All subsidiaries continued to conduct self-monitoring of groundwater and strictly implemented the system for investigating potential soil pollution hazards and corporate requirements for self-monitoring. The Company actively organised its subsidiaries to apply for the Major State Projects for Soil Pollution Source Control Projects and the pilot project of "controlling while producing". We conducted special supervision and inspection on potential soil hazards and monitored key soil regulatory enterprises in major basins of the Yangtze River and the Yellow River. The marketing subsidiaries actively investigate and prevent groundwater pollution. In 2022, the Company organised subsidiaries along the Yangtze River and Yellow River basins to clean up and dispose of 105,000 tonnes of solid waste in solid waste landfills.



Land Resource Management

The Company strictly abides by national policies and regulations such as the *Land Administration Law of the People's Republic of China* and the *Soil Pollution Prevention and Control Law of the People's Republic of China* and has formulated the *Sinopec Land Management Measures*, to strengthen the management of land resources and standardise the handling of land use procedures according to the principle of "intensive, efficient and green land use". The subsidiaries are required to minimise the use of arable land, timely reclaim idle land, and restore soil after land use in accordance with relevant national regulations to promote sustainable land resource use.

Intensive land use to strengthen land regulation

- Established land use standards for different well pad types to improve the utilisation rate of old well pads.
- Optimised the land exploration and development layout and centralised stations as much as possible, to improve the land plot ratio.

Efficient land use to revitalise land resources

- Deploy land use for the next year at the end of each year and adjust the plan appropriately according to the actual situation in the middle of the year.
- Reused the old well site to improve the land use efficiency.
- Promoted the optimisation and adjustment of mining resources, investigated and arranged the exploration, development and utilisation, new energy utilisation for planned inefficient idle land, etc.

Green land use to build an ecological barrier

- Strictly implemented well sealing and soil testing, and signed the safety and environmental protection handover confirmation with the local natural resources department.
- Carried out geological and ecological restoration work in accordance with national laws and regulations such as the *Regulation on Land Reclamation* and the *Provisions on the Protection of the Geologic Environment of Mines*, and strictly performed reclamation obligations.
- Implemented the retiring and reclamation of idle land from industrial uses, evaluated the well control safety and environmental risks of idle industrial and mining land, such as abandoned well pads, screened idle land without safety or environmental risks, and retired lands in accordance with their category. Land located near farmland and eligible for reclamation will be returned to the local government after reclamation.

Control of Atmospheric Pollutants

The Company strictly implements the *Atmospheric Pollution Prevention and Control Law of the People's Republic of China* and other national and local regulations for air pollution prevention and control and has formulated the *Sinopec Regulations for Pollution Prevention and Control*, to comprehensively improve air pollution prevention and control. The Company has issued the energy and environmental responsibility commitment to all subsidiaries, which outlines emission reduction goals and control tasks and includes them in the annual evaluation process. To fully promote air pollution prevention and control, the Company has also issued the *Notice on the Implementation of the Key Tasks of the Opinions of the CPC Central Committee and the State Council on Promoting the National Pollution Prevention and Control Campaign*. The Company has adjusted the control scope in a scientific manner and timely initiated emergency plans during severely polluted weather conditions and made timely adjustments to production equipment and environmental protection device to fully meet the requirements of air pollution control, emission reduction targets and air quality assurance requirements during major activities. The Company formulated and implemented the *Special Action Plan for Ozone Pollution Prevention and Control* and vigorously promoted the implementation of emission reduction projects in a way stricter than national and local standards for emission concentration of NOx and VOCs. In 2022, all subsidiaries of the Company achieved the annual target for comprehensive control of exhaust gas, with a compliance rate of 99.5%.



Solid Waste Management

In accordance with the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution Caused by Solid Wastes*, Sinopec Corp. classified and managed the wastes generated from production and operation, and disposed of all of them in a proper and comprehensive utilisation manner or in a harmless manner. Adhering to the principle of "reduction, recycling, harmless disposal of waste, and planned management" for solid waste disposal, the Company continuously improved relevant policies and systems in alignment with the solid waste management goals and tasks during the "14th Five-Year Plan" period. In 2022, the Company achieved a 100% disposal rate for hazardous waste, fully meeting the target for the year.

In 2022, the Company launched the pilot construction of the "Waste-Free Group", issued the *"Waste-Free Group" Pilot Construction Work Programme*, the *Construction Index System for "Waste-Free Group"*, the *Evaluation Index for "Waste-Free Group" Construction*, the *Implementation Plan for Special Safety Rectification of Hazardous Waste Disposal*, and other policies, and conducted solid waste reduction in various forms. In 2022, the Company's hazardous waste production decreased by 5% year on year.

In addition, the Company has developed the *Reference List for Classification of General Industrial Solid Wastes for Inspection, Maintenance, Overhaul and Reconstruction of Refining and Chemical Enterprises* and the *Reference List for Classification of Construction Wastes for Inspection, Maintenance, Overhaul and Reconstruction of Refining and Chemical Enterprises* to improve source identification and classified storage management of hazardous wastes and other solid wastes. In 2022, the Company's comprehensive utilisation rate of solid waste was 84.6%, up 1 percentage point year on year.

In 2022, the Company intensified its efforts in R&D of eco-friendly packaging and the promotion of high-performance materials and thinning technology for packaging bags. The Company prioritised the enhancement of packaging recycling and conducted beneficial explorations and practices to conserve resources and mitigate plastic pollution.

Solid waste categorisation	Management method
Hazardous waste	Mainly utilised or disposed in the Company's own facilities, or handled by qualified third parties.
General industrial solid waste	Handled by entities with proper technologies for comprehensive utilisation or sent to landfills for safe treatment.
Construction waste	Utilised in accordance with the disposal plan approved by the local government, or sent to designated landfills.
Domestic waste	Collected and disposed by qualified entities with approval from local authorities.

Indicators
Amount of non-hazardous solid waste (thousand tonnes)
Amount of hazardous waste (thousand tonnes)
Compliance rate of solid waste disposal (%)
Percentage of hazardous solid waste disposed properly (%)

2020
1,710.8
731.1
100
100

2021
1,931.6
461.0
100
100

2022
2,036.9
515.0
100
100



Case

Shared pallet recycling

By promoting the use of shared pallets, Sinopec Corp. has realised the delivery of synthetic resin products with pallets and films, which has comprehensively improved the speed and efficiency of logistics operations. In 2022, the Company reduced the use of 140,000 wooden pallets and reduced the cost by RMB 9 million via shared pallet recycling. If wooden pallets is useless after three cycles, the carbon emissions generated by solid waste incineration each year will be 6,722 tonnes. If one timber tree can be made into six standardised pallets, the recycling can save 23,000 trees from being cut down. Since 2019, the Company has officially used shared pallets in 27 subsidiaries, leading the development direction of domestic synthetic resin industry logistics. Nowadays, shared pallets have been promoted and applied widely by manufacturers and logistics carriers.

Case

Thinning the FFS heavy film packaging bags

Before the thinning, in 2020, the thickness of the FFS heavy film packaging bags of Sinopec's resin products was 0.16-0.18 mm, with an average thickness of 0.168 mm. By adopting the thinning technology, the average thickness of the bags has been reduced to 0.137 mm in 2022. Some of the Company's subsidiaries such as Fujian Refining and Petrochemical Co., Ltd. have started to use 0.10 mm packaging bags within a small scale. In 2022, 16.5 million tonnes of resin products were packed with the thinned FFS heavy film packaging bags, reducing the use of 17,000 tonnes of FFS heavy film and carbon emissions by 85,000 tonnes per year.

Prevention of Hydrocarbon Leakage

The Company formulates management regulations such as the *Manual for the HSE Management System*, the *Sinopec Environmental Management and Protection Regulations*, and the *Sinopec Pollution Prevention and Control Management Regulations* to guide subsidiaries to carry out hydrocarbon leakage prevention and control. The headquarters of the Company and the management departments of each subsidiary regularly conduct on-site inspections using infrared detectors and other equipment to strengthen leak detection and repair (LDAR) management and control odour in the plant. The Company has prepared the *Environmental Technical Requirements for the Treatment of VOCs in Storage Tanks* to guide subsidiaries to carry out tank VOCs treatment. Cooperating with the Chinese Academy of Environmental Planning, the Assessment Centre for Environmental Engineering of the Ministry of Ecology and Environment, the Dalian Research Institute of Petroleum and Petrochemicals and the Qingdao Institute of Safety Engineering, the Company studied the accounting and monitoring methods of fugitive emissions of volatile organic compounds from petrochemical enterprises, and jointly pushed forward the "Research on VOCs Emission Accounting Methods for Petrochemical Enterprises" and the "Research on VOCs Monitoring System for Petrochemical Enterprises".

The marketing subsidiaries have installed oil and gas recovery equipment and facilities in all warehouses and stations, achieving 100% up-to-standard emission of VOCs, actively implemented the requirements of the *Emission Standard of Air Pollutants for Oil Storage Tanks*, and conducted troubleshooting for potential hazards in oil depots. In 2022, the marketing subsidiaries closed and unloaded a total of 86 oil depots to eliminate environmental hazards. In accordance with the requirements of the *Volatile Organic Pollutants Fugitive Emission Standard*, in 2022, the marketing subsidiaries conducted LDAR maintenance for 137 oil depots and completed the detection and repair of the leakage points. The marketing subsidiaries carried out statistical analysis on key equipment such as the vacuum pump, refuelling gun, and oil and gas recovery and treatment device, and optimised equipment selection to improve the stability and compliance of the oil and gas recovery system of gas stations.



Real-time monitoring of VOCs components in the device area

Biodiversity Conservation

In strict compliance with the *Environmental Protection Law of the People's Republic of China* and the United Nations *Convention on Biological Diversity*, the Company attaches great importance to the protection of the ecological environment. The Company established and completed the ecological management system, and formulated documents such as the *Sinopec Environmental Management Regulations* and the *Sinopec Ecological Management Measures* to regulate the ecological protection work at all stages of the project construction and operation period. The Company required all construction projects in ecologically sensitive areas to adopt strict ecological protection and restoration measures. When carrying out feasibility studies and environmental impact assessments for projects with ecological impact, the Company regularly investigates potential hazards involving ecological redline to ensure maximum mitigation or elimination of impacts. The Company requires related parties to strictly comply with the "Three Lines and One List" regulation as well as the general requirements for relevant planning and environmental impact assessment, with regard to the site (route) selection, layout, and scale of construction projects.

In 2022, the Company continues to improve its ecological monitoring and evaluation system and the environmental monitoring network, and to engage in ecological monitoring on a pilot basis in subsidiaries. For 13 consecutive years, it has monitored six major elements of the environment, including air, surface water, land, vegetation, etc. in the Puguang gas field and surrounding areas, with a total of more than 34,000 entries of monitoring data and 3,000 comparison photos obtained so far. The ecological tracking results show that the local ecological functions have not been affected by gas field development. In 2022, there were 78 ecological monitoring sites deployed, obtaining 13,500 sets of ecological monitoring data.

The Company integrated biodiversity conservation into annual energy and environment performance evaluation system. In 2022, there was no incident involving the subsidiaries that was harmful to biodiversity.



Main Actions for Biodiversity Conservation

- Operation site recovery and improvement**
 - Removed oil and gas production facilities in the ecological protection redline area, followed the "Three-in-One" operation mode of well closure, facility removal and ecological restoration, thoroughly cleaned the well pad, loosened the soil, and carried out ecological restoration.

- Contractor and supplier management**
 - Proposed that the construction unit is the responsible subject of environmental protection during construction. As such, they must follow and implement relevant environmental protection laws and regulations, formulate environmental protection plans for the construction work, and refine environmental protection measures.
 - Urged construction units to implement various environmental protection measures and requirements during the construction period.

- Maintaining the biodiversity of waters**
 - Conducted fish and shrimp proliferation and release, supplemented and restored aquatic biological resources, improved the water environment, and optimised the structure of the fishery resource community.
 - Actively cooperated with the Anqing Municipal Government to restore the National Aquatic Germplasm Resources Protection Zone of *leiochassis longirostris*, catfish and mandarin fish in the Anqing section of the Yangtze River, and invested RMB 800,000 as financial support.

- Action against deforestation**
 - Defined the requirements for ecological protection without deforestation in relevant systems, avoiding areas protected by the ecological redline as well as ecologically sensitive areas such as forest parks and natural forests to minimise ecological damage. In case of ecological damage, restoration shall be carried out according to the requirements of the competent department of ecologically sensitive areas.
 - Subsidiaries have formulated their own management requirements for ecological protection and implemented them in specific work.

- Ecological protection of mining areas**
 - For mining areas containing major wetlands, nature reserves, forest parks and other environmentally sensitive areas, the extension and change process of mining rights should avoid all kinds of sensitive areas.
 - Ensured the effective use of costs for the prevention and control of water and soil conservation during the construction of development projects, effectively controlled the water and soil loss and continuously improved the ecological environment around the construction sites.

Sinopec Environmental Management Regulations

- "Strictly in compliance with state environmental protection requirements, project construction, operation and decommissioning (relocation) shall have their respective ecological protection plans formulated and implemented, shall take effective measures to reduce the disturbance to the ecological environment, shall carry out the necessary ecological assessment, monitoring, restoration, and statistic studies as required, to protect biodiversity in surrounding areas and ensure ecological safety and stability."

Sinopec Ecological Management Measures

- "All units shall strictly manage their production and operation, reduce the disturbance of production and operation to the ecological environment, protect biodiversity, and ensure ecological safety."
- "Strictly abide by the relevant special management regulations of the national and local governments on the ecologically sensitive areas. New projects should give priority to avoiding ecologically sensitive areas. If it is impossible to avoid, special demonstrations should be carried out according to the requirements of the competent department of the ecologically sensitive areas after obtaining permission from the competent department. Projects are not allowed to start without permits."

Case

Sinopec's subsidiaries were selected in the *Business Handbook for Biodiversity Conservation Cases Summary*

In December 2022, Sinopec Corp. and other two Chinese enterprises were selected into the *Business Handbook for Biodiversity Conservation Cases Summary*, which was jointly prepared by the World Business Council for Sustainable Development (WBCSD) and other institutions and released at the China Corner side event of the second phase of the Fifteenth Conference of the Parties to the United Nations Framework Convention on climate change (COP15) in Montreal, Canada.

The Company's *Sinopec: Construction of a Park for Fostering Biodiversity Benefits* introduced in detail its two representative cases for improving biodiversity benefits, namely Zhenhai Refining and Chemical Company's egret habitat, the only egret habitat of petrochemical enterprise in China, and the "industrial sewage treatment with standard discharge + wetland natural ecological restoration system", a comprehensive purification practice of eco-type industrial sewage of Yanshan Petrochemical Company.

Case

Mansarover actively protects the ecosystem and biodiversity

Mansarover Energy Colombia Ltd. took the initiative to investigate the status of the ecosystem in the region, arranged operation activities according to the regional characteristics, and monitored the changes of the ecosystem. The company carries out ecological surveys every year to track the status of fauna and flora in the area where it operates, and monitor the development of key species, helping find the endangered species to a certain extent. Since 2018, Mansarover has found 57 species of herbaceous plants, 22 species of amphibians and 104 species of birds in the forest area near the oilfields, including 33 species of endangered animals, contributing to the local conservation of species diversity. In addition, Mansarover rescued local representative species in its oilfield blocks, such as red-footed sea turtles and white-faced capuchins after joining the biological protection and release program in 2018.



04

Building a Solid Safety Defence Line

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Safety Management System

HSE Management System

Sinopec Corp. has set a goal of achieving "zero casualties, zero pollution, zero accidents". To this end, the Company follows the basic policies of "organisation leads, and all employees participate; manage and control risks, and strength the fundamentals", adheres to the concept of "safety first, environmental protection foremost, physical and mental health of employees, and strict, detailed, effective and consistent implementation", and has formulated and implemented management measures such as the *Sinopec HSE Management System Manual*. The HSE Committee holds monthly and quarterly meetings to summarise and analyse the critical aspects of HSE management and plan for the next steps to enhance the efficient operation of the HSE management system.

Important Practices of Safety Management in 2022

Strengthen the implementation of safety responsibilities

- Actively carried out safety production cautionary education to improve employees' safety awareness.
- Organised personnel at key HSE posts to participate in training and acquire certification.

Strengthen risk control and safety hazards rectification

- Conducted special rectification actions for safety production and promoted the centralised tackling of safety risk control and hazards.
- Completed the construction of an "intelligent control platform for dual prevention" in 109 manufacturing subsidiaries, established the "offshore oil safety risk monitoring and early warning system", and carried out in-depth safety risk assessment of manned platform and safety assessment of the main structure of the aging platform.

Strengthen supervision of key links

- Revised a series of safety management systems for direct operation links and produced accident and incident prevention training videos for high-risk operations.
- Conducted special operations on contractors' safety and established a special safety supervision team, completing three rounds of supervision tasks for 51 enterprises.

Improve emergency response capabilities

- Reviewed the emergency plans of 78 enterprises and organised them to conduct emergency drills in a normalised manner.
- Prepared the *Work Plan for Strengthening the Construction of Full-time Fire Fighting Teams of Enterprises* and carried out special fire safety evaluation.

In 2022, the Company conducted HSE management system audits for its 82 subsidiaries and incorporated the audit results into the performance evaluation system. Work plans for enterprise safety performance evaluation were formulated and the evaluation results were taken into account while selecting advanced enterprises of safety production.

Safety Management Goals of Sinopec Corp.

Achieving an advanced level in the industry's third-party assessment of the HSE management system.

Achieving a 100% ratification rate of major hidden safety hazards on the watch list.

Achieving a 100% detection rate of occupational hazard factors; 100% effective prevention and control rate of occupational disease hazards; 100% rate of occupational health check-ups; 100% intervention of high-risk personnel.

Safety Risk Identification and Mitigation

Sinopec Corp. continues to uphold a strong commitment to optimising its safety risk identification mechanism. To this end, the Company has implemented a range of measures aimed at deepening the application of the risk assessment management platform, promoting systematic, regular, standardised and informationised identification and assessment of risks, and building a dual prevention mechanism of tiered control and hazard detection and management and eliminating the weak links of safety management.

The Company carries out an annual safety risk identification and assessment. This process firstly involves creating a risk identification list from the bottom to the top level, followed by determining the list of major risks under the Company's special supervision based on the identification and evaluation results of its subsidiaries. In 2022, the Company identified and assessed 7 major risks requiring special attention.

In 2022, the Company organised the construction of a dual prevention and intelligent control platform for tiered risk control and hazards detection and rectification, which facilitated online risk identification and evaluation for 2,449 major hazard sources of 96 enterprises. The Company integrated auxiliary functions such as risk monitoring and early warning, operational risk management and control, video intelligent analysis, personnel positioning, intelligent patrol and inspection into the platform, and upgraded the original Petrochemical HSE Assessment & Management System (PHAMS).

The Company continues to strengthen the construction of the security emergency management mechanism, by promoting all subsidiaries to establish emergency management systems with clear levels and responsibilities for prompt action on abnormal monitoring and warning. The Company is committed to strengthening the training of emergency knowledge and skills for all employees and conducts regular emergency drills, to improve the emergency response capacity of all employees for safety events. All subsidiaries regularly carry out joint emergency drills with the local government to effectively improve the emergency response capacity against major accidents.



Production Safety

Sinopec Corp. strictly abides by laws and regulations such as the *Safety Production Law of the People's Republic of China*, the *Production Safety Law Interim Measures for the Investigation and Treatment of Hidden Dangers of Production Safety Accidents*, the *Implementation Guidelines for the Investigation and Treatment of Hidden Dangers of Hazardous Chemical Companies*, and has formulated rules and regulations such as the *Management Regulations on the Dual Prevention Mechanism of Hierarchical Management and Control of Production Safety Risks Investigation and Treatment of Hidden Dangers of Sinopec*, committed to strengthening production safety, preventing safety risks, enhancing hidden danger investigation and management, and systematically preventing and reducing the occurrence of production safety accidents.

Safety hazard screening and rectification

- Conducted special actions for the inspection and rectification of dangerous chemical leakage and gas, and special hazards treatment of oil and gas long-distance pipelines.
- Established 4 special safety inspection teams and completed 3 rounds of supervision tasks for 51 enterprises in total. Set up 14 inspection teams composed of internal safety experts to conduct special safety inspections for 42 enterprises.

Safety performance evaluation review

- Carried out quantitative evaluations of safety performance, selected 36 advanced subsidiaries for safe production, and organised experience-sharing activities.
- Invited a third-party safety rating agency to carry out system certification reviews for subsidiaries. Zhenhai Refining & Chemical Company obtained the first International Safety Rating System (ISRS) seven-level certificate in the national petrochemical industry and became the first enterprise to reach level seven in the petrochemical industry in China.

Strengthen oil spill management

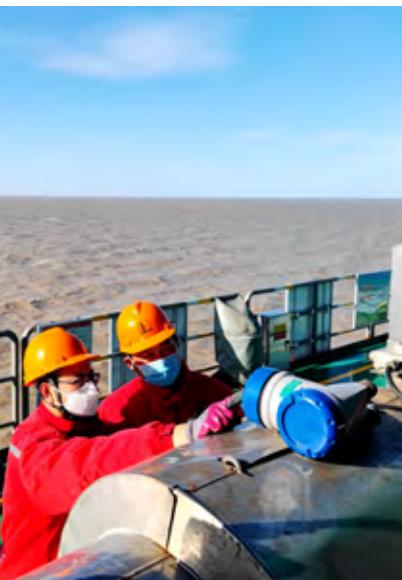
- Formulated an oil spill control system, comprehensively identified oil spill risk points, formed a risk control list, and developed corresponding management and emergency response measures.
- Strengthened hazards investigation and treatment of submarine pipelines, and implemented management on the "integrity" of offshore platforms and submarine pipelines, fully completed relevant inspection.

Improve the intelligent level of safety production

- Conducted research on the application of artificial intelligence, big data, the industrial internet and other technologies within the industry, launched the pilot project of the "Industrial Internet + Production Safety" via "ProMACE Platform", and deeply integrated the construction of intelligent and digital platforms with production safety.

Production safety training

- Organised special training around topics such as natural disaster safety in flood season, knowledge and management skills of maritime production safety in accordance with relevant national laws, regulations and standards, comprehensively improving employees' abilities of risk identification and control and hazards detection and rectification.



Contractor Safety

Focusing on the improvement of contractors' safety awareness and management level, the Company has developed systems such as the *Measures for Safety Supervision and Management of Contractors*, and the *Measures for Safety Supervision and Management of Key Materials Supply*. These systems clearly define the requirements for contractor safety qualification review, safety supervision and management, inspection and supervision, and assessment of bidding, contract signing, subcontracting, project commencement, on-site construction, special operations, and other processes.

In 2022, the Company organised the whole system to carry out special rectification for contractor safety, and conducted special supervision and inspection on several high-risk construction projects. For any contractor violations found, the enterprise was ordered to immediately suspend construction, undergo accountability evaluation and carry out necessary rectification measures. The Company strictly controlled the safety risks of high-risk construction projects and released a series of cautionary videos of high-risk operation accidents, to enhance the safety awareness of the contractor's personnel. The Company conducted quantitative assessment of contractors, evaluating their safety, quality, and comprehensive management behaviour throughout the entire construction process, thereby promoting contractors to comprehensively inspect and improve their own compliance behaviours.

In 2022, the Company conducted safety assessments on 2,857 direct operators, cleared 67 operators from the construction site and cancelled the operating qualifications of 134 personnel.

Indicator

Proportion of contractors passing occupational health and safety management system certification (%)

	2020	2021	2022
Proportion of contractors passing occupational health and safety management system certification (%)	100	100	100

Occupational Health

Occupational health and safety is an important part of Sinopec's safety defence. Sinopec strictly abides by the *Safety Production Law of the People's Republic of China*, the *Occupational Diseases Prevention and Control Law of the People's Republic of China*, and other relevant laws and regulations, ensures the comprehensive prevention and control of occupational diseases, and actively promotes health management of employees about their work and life both physically and mentally. The Company has set a "100% detection rate of occupational disease hazards, 100% effective prevention and control rate, 100% occupational health check-up rate and 100% intervention rate for personnel at high risk of health" as its occupational health management target, and has continued to carry out relevant health and safety management actions around this target.

Management of Hazard Risks for Occupational Diseases

The Company attaches great importance to identifying, evaluating, and controlling occupational health risks and has integrated the management of occupational disease hazard risks into its comprehensive risk management system for an integrated approach to management. Together with the national departments of disease control and prevention, the Company conducted a thorough deeply investigation to grasp the pattern of occupational diseases, analysing and summarising the incidence of occupational diseases in the past decade, and formulated targeted improvement measures for key occupational diseases such as noise deafness and benzene poisoning, to effectively protect the health of employees.

To address the occupational disease risk of noise deafness, the Company formulated and implemented the *Guidance on the Implementation of Excessive Noise Treatment* and compiled the *Guidance on the Management of Noise Hazards in Petrochemical Enterprises*. These guides provided guidance and direction to subsidiaries in the inspection and management of excessive noise positions and workplaces. The Company has effectively managed and controlled noise hazards, as well as required subsidiaries to treat excessive noise as an occupational health hazard, and tracked the progress of excessive noise treatment in each subsidiary. We conducted noise control experience-sharing activities to promote advanced noise control technologies and management measures and summarised the noise control experience.

In 2022, the Company spot-checked the occupational disease evaluation reports of 33 oil fields and refining subsidiaries. Any existing management and technical problems were immediately notified, and specific rectification measures were proposed. Enterprises with serious hazards, such as oilfield, refining and chemical subsidiaries, were thoroughly reviewed and monitored to ensure the occupational health and safety of all employees.



Organising staff to learn about the Occupational Diseases Prevention and Control Law

Management of Employees' Occupational Health

Sinopec Corp. actively promotes the management of employees' occupational health by combining the occupational health management concept with the HSE management system. The Company has set up an Occupational Health Sub-Committee under the HSE Committee to coordinate the management of employees' occupational health, track the implementation of key indicators and ensure their occupational health.

- Improve system audit rules**
 - Set the two indicators of new occupational diseases and non-productive death as the monitoring indicators of the Company's HSE Committee.
 - Indicators such as the control of excessive hazards, the provision of flame-retardant work clothes, the quality inspection of labour protection materials, the occupational health knowledge education, and the implementation of EAP, are set as the monitoring indicators of the sub-committee.
- Strengthen audit qualification training**
 - Coordinated and conducted the certification training for professional auditors on occupational health to provide human resources for professional audit.
 - Tracked and oversaw the training system review and provided rectification measures for the problems found.
- Promote digital management of occupational health**
 - Completed the initial research of the occupational health digital module pilot project and successfully launched it for trial at Yanshan Petrochemical Company.
 - The Smart Helmet Project has completed the site construction and entered the trial operation stage.
 - New technologies such as hazard alarm smart chip and portable hydrogen sulfide alarm have entered the development stage, providing convenient and safe protection for employees who works in the hydrogen sulfide distribution environment.
- Occupational health promotion and training**
 - Organised a series of occupational health publicity and education activities, such as holding the Publicity Week of the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, publishing occupational health knowledge on the official WeChat account, and preparing the *Occupational Health Management Practice Manual for Petrochemical Enterprises* to guide the occupational health and safety management of front-line employees.
 - Organised a series of professional video-watching training on occupational health monthly to convey and explain the requirements of national laws and regulations and share the typical experience of noise control, provision and use of labour protection equipment and other contents.

The Company's health and safety activities in 2022

More than 9,000 thematic publicity activities	More than 6,000 consultation activities	Creating over 30,000 slogan banners
Deploying more than 30,000 publicity personnel	Covering 500,000 audiences	

Care for Employees' Mental Health

Mental health is an important factor in ensuring employees' safety and health. Sinopec Corp. adheres to operating modes of the Employee Assistance Programmes (EAP) and scientifically protects the mental health of employees. In 2022, the Company further expanded the coverage of EAP service, integrated EAP with production safety management, and strengthened the range of psychological counselling services so that the EAP can reach more employees.

Strengthen mental crisis intervention

- Incorporated mental crisis intervention into the corporate emergency rescue system and established a specialised intervention team to conduct tiered and classified mental intervention based on on-site questionnaire surveys, demand interviews, and face-to-face observations, greatly improving the effect of mental interventions.

Promote online psychological counselling

- Understood the grass-roots employees' situation through the "Advancing Sinopec" Platform and conducted an online survey with more than 300,000 employees to accurately understand their mental status.
- Continued to provide psychological assistance to employees deployed overseas via the 7×24-hour Employee Psychological Hotline and share psychological knowledge on the "Sinopec Heart Happiness Counselling" Platform.
- Carried out "Heart Happiness Express" EAP Visits to serve front-line subsidiaries and employees in need, getting through the "last mile" towards employees' minds.

Ensure the physical and mental health of overseas employees

- Implemented the *Guidance on Vigorously Implementing the Employee Assistance Programme (EAP)* and the *Opinions for Improving Overseas EAP Work* to strengthen the training of overseas personnel, and provided more targeted mental counselling services, such as the health management platform for overseas employees and the "Offshore Platform Mental Services" module for offshore operations.

Logistics Safety

The Company places great emphasis on the prevention and control of safety risks associated with hazardous chemicals and considers it a top priority in its logistics safety management. To ensure standardised prevention and control of hazardous chemical safety, the Company identified applicable provisions from relevant chemical laws and regulations and incorporated them into its new safety management documents, continued to strengthen HSE management of logistics suppliers, updated the HSE risk list annually, and guided employees and suppliers to improve logistics safety management. In response to the newly released *National Centralised Management Plan for Safety Risks of Hazardous Chemicals*, the Company has formulated a series of management measures to ensure compliance with the new regulations on hazardous chemicals.

Response initiatives for the *National Centralised Management Plan for Safety Risks of Hazardous Chemicals* newly released in 2022

- Organised special education and training activities to ensure that employees fully understand and adhere to the new chemical laws and regulations, and integrate them into their daily work.
- Initiated the construction of an intelligent management and control platform for hazardous chemical safety to effectively control operational risks.
- Conducted a comprehensive investigation of the production and operation sites of subsidiaries to identify potential hazards and incorporate protective measures into the annual rectification plan.
- Strengthened supervision and inspection to ensure compliance with the new laws and regulations, and effectively promoted the prevention and control of hazardous chemicals through system audits, professional inspections, and safety supervision to prevent any violations.

The Company sees the construction of systematic platforms as one of the important measures to ensure logistics safety. EPEC launched a logistics cloud platform that enables transparent, efficient, and traceable transactions for logistics operations. The platform integrates logistics information with purchase orders and business processes, providing full-process traceability of logistic information from order handling, distribution, storage, to delivery. As of the end of 2022, 4,089 logistics service providers had registered on the platform.

Key Points of Logistics Safety Training in 2022

Practical operation safety in logistics

Invited logistics experts to carry out special training on practical operation safety in logistics links, and invited 13 experts and organised 6 special training sessions throughout the year. The training program covers specific practical operation links such as common cargo waterways/highways, dangerous cargo waterways/highways, hazardous chemical loading and unloading, ethylene oxide logistics, etc.

Application of information technology in logistics

Invited information technology experts to carry out systematic training on vehicle safety inspection and driver safety education, strengthened the application of information technologies for logistics safety, and improved the Company's overall logistics safety information management.

Special training themed "promoting rectification by case-sharing"

Analysed the causes of common accidents such as leakage, rollover and in the transportation process of subsidiaries, and shared them with other subsidiaries via monthly meetings and special meetings to alert employees of potential logistics risks and improve their awareness of safety control.

Information Security

In strict compliance with the provisions of the *Cyber Security Law of the People's Republic of China*, the *Data Security Law of the People's Republic of China*, the *Personal Information Protection Law of the People's Republic of China*, the *Regulations on Classified Protection of Network Security*, the *Regulations on Security Protection of Critical Information Infrastructure* and other laws and regulations, the Company developed a network security management policy and standard system centred on the *Sinopec Network Security Management Measures*. The Company has established a Network Security and Informatisation Leading Group to lead the centralised coordination of network security efforts. The group reviews and approves medium and long-term network security plans, annual plans, and key work, providing guidance, coordination, supervision, and inspection of the network security of the Company to ensure the implementation of various network security tasks and responsibilities, to effectively prevent the misuse of customers' personal information and to ensure that the personal information collected from customers is used only for lawful and relevant purposes. As of 2022, there have been no major network security incidents reported.

In 2022, the Company conducted a comprehensive analysis of information risks, implemented a series of targeted strategies and measures, and comprehensively enhanced information security management. Employees can report any information or network security concerns to the Sinopec Security Response Centre (SSRC) through three channels when suspicious matters of information security/network security are found: by reporting the incidents through the security operation platform to form a full closed-loop management according to the incident handling process; by contacting the local communication group through the Company's internal communication software; by preparing a safety incident briefing and reporting it via email.

Improving management mechanism

- Continued to revise and improve management measures such as the *Sinopec Network Security Management Measures* and *Sinopec Network Security and the Informatisation Assessment Regulation*, and updated technical specifications such as the *Network Equipment Security Baseline*.
- Formulated the *Key Points of Sinopec's Network Security in 2022* and proposed 19 key tasks focused on responsibility implementation, compliance management, technical security prevention, operation system construction, and supervision and assessment.
- Continuously optimised the corporate network security evaluation system, with evaluation results directly related to the performance evaluation of Sinopec subsidiaries.
- Strengthened information and network security training and organised 45,521 person-times to learn the Company's network security system online through Sinopec Online Academy.

Strengthening risk assessment

- Regularly carried out compliance review of data security system, conducted annual self-reviews and network security inspections and quarterly internal audits on ordinary IT controls and invited external audit institutions to conduct IT general control audits every six months.
- Invited national evaluation institutions to carry out three-level system evaluation annually according to the *Basic Requirements for Classified Protection of Network Security of Information Security Technology*.
- Sinopec Security Response Centre (SSRC) carried out penetration tests on centralised, Internet application systems and newly built information systems, identified security risks and identified potential security risks and rectified them in a timely manner.
- Conducted internal attack and defence drills to evaluate the Company's ability to resist risks, continuously tracked and rectified the problems found in the pre-drill, comprehensively improving the Company's network security protection and the ability to resist risks.

Establishing a notification emergency mechanism

- Provided regular disclosure on network security trends and various safety rectifications, continuously tracked and revisited the rectified security risks.
- SSRC dynamically monitored the Company's network, actively identified security hazards and vulnerabilities, analysed network attacks in real-time, and promptly responded to the threats of network irregularities.
- Prepared for the construction of overseas security operation sub-centre and gradually built a normalised network security protection system to prevent and reduce business disruption caused by network security risks.



Northwest Oilfield: Cyber Security Propaganda at well stations

Security

Adhering to the overseas security concept of "people-oriented, prevention first and safe development", Sinopec Corp. continues to optimise its overseas security management system and operation mechanism, and has maintained the "zero death" overseas security performance for 15 consecutive years. The Company promotes the development of overseas security emergency command systems and intranet deployment, continues to improve overseas security management systems, focuses on security risks in high-risk countries (regions) and key areas, and strengthens overseas security inspection and emergency drills. We actively organise overseas safety training and place great emphasis on the physical and mental health management of overseas employees.

As of the end of 2022, the Company has published two issues of the *Overseas Security Risk Assessment Report*, identifying 138 security risks, organised 70 overseas security training courses, covering 1,697 people, as well as the training for all overseas security prevention personnel, with a total of 9,723 participants, and published 124 issues of various publications on risk tracking, risk alert and situation analysis, including an issue of *Annual Information Report on Country Risk* and 4 issues of *Country Risk Alert*.



05

Respecting Human Rights and Cultivating Talents

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Respecting and Protecting Human Rights

The Company strictly abides by the *International Covenant on Economic, Social and Cultural Rights*, the *International Covenant on Civil and Political Rights*, the *Convention of the People's Republic of China on the Elimination of Discrimination in Employment and Occupation*, and other international covenants and Human Rights Action Plan approved or signed by the Chinese government. It also strictly implements relevant domestic laws such as the *Labour Law of the People's Republic of China*, the *Labour Contract Law of the People's Republic of China*, and relevant laws, regulations and systems of other countries where it is operated, as well as standards such as the *Universal Declaration of Human Rights*, the Ten Principles of the United Nations Global Compact, and the *National Human Rights Action Plan (2021-2025)*. Furthermore, the Company never disregards and tramples on human rights, always adheres to the principle of equal and non-discriminatory employment, treats employees of different genders, regions, races and religious beliefs fairly and equitably, promotes the construction of a diverse workforce, respects and protects the rights and interests of employees, contractors and suppliers as well as occupational health and safety, and builds a harmonious, stable and healthy labour relationship.

Protecting Labour Rights

Constructing Harmonious Labour Relations

Sinopec Corp. actively implements the *Labour Contract Law of the People's Republic of China*, builds harmonious labour relations, and promotes the fundamental principles of decent work. The Company strives to enhance its employees' sense of inclusion, satisfaction, and security with regard to human rights protection. It consciously resists any violations of human rights and takes a zero-tolerance approach to discrimination based on nationality, gender, age, race, religion, pregnancy, or disability in areas such as recruitment, advancement, training, and compensation. The Company also operates based on the principle of equal communication and mutual benefit, collaborating with employees towards mutual growth and development.

Protecting Legitimate Rights and Interests of Employees

The Company signs written labour contracts with employees based on the principles of "equality, voluntariness, and consensus". These contracts, approved or supervised by the local labour department, outline the terms of employment including the contract term, job duties and work place, working hours and breaks and vacation clauses, labour remuneration clauses, labour protection and occupational hazard protection clauses, and meet the necessary requirements outlined in labour contract regulations. In addition, the Company has also formulated a supporting labour management system for employees to ensure the strict implementation of these contracts and the protection of its employees' rights and interests. The Company reviews and confirms its recruitment practices and systems annually to avoid child labour and forced labour. In 2022, there were no incidents of child labour and forced and compulsory labour.

Strengthening the Protection of Human Rights of Overseas Employees

The Company firmly implements the requirements of human rights legislation and international human rights conventions in the host country, thoroughly researched and strictly follows local laws and regulations, and collaborates closely with labour organisations in these countries. Through the formulation of relevant systems and measures, we will supervise the overseas employment process and fully protect the legitimate rights and interests of overseas employees. Meanwhile, we attach importance to the career growth and development of overseas employees, provide support and care, cultivate harmonious labour relations, and balance economic and social benefits for all.

Diversity and Equal Opportunity

Sinopec Corp. attaches great importance to the all-around development of its employees, actively promotes workforce diversity, and strives to create a diverse workplace. The Company provides equal opportunities for career development and fair compensation for all employees. Meanwhile, the Company fully protects the employment rights of individuals with disabilities, effectively manages the placement and support of its disabled employees, attends to their daily needs, and takes various measures to ensure the stability of their employment.

Concerning addressing the specific needs of female employees, the Company established a female worker committee within the labour union to provide special care to its female workers. To effectively protect the rights and interests of female employees from the source, the Company requires all labour contracts and collective contracts to contain provisions for protecting the rights of female employees to be valid and effective. Regarding its operation, the Company attaches importance to labour safety and the health of female employees in the production process, organizes hygiene supervision and inspection, and continuously improves their work environments and conditions. In the meantime, the Company actively implements maternity and lactation leave provisions and a regular health examination system and places a priority on the physical and mental well-being of its female employees.

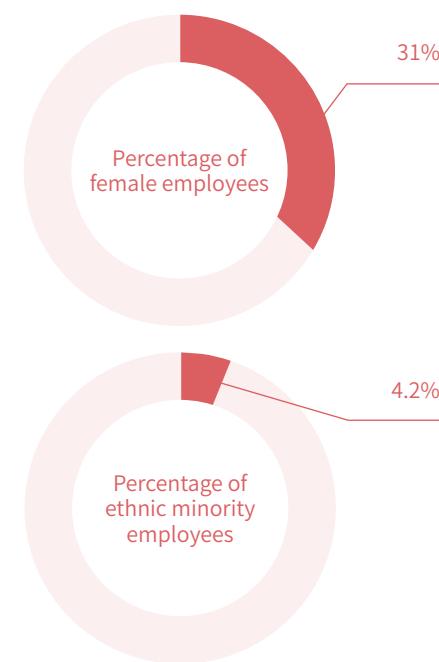
Employee Communication and Participation

The Company has established and continuously improved rules and regulations such as those related to collective consultation as well as employees' congress and has implemented a democratic management plan. The Company protects the legitimate rights of employees, including the right to know, the right to participate, and the right to supervise, and encouraged employees to actively engage in its democratic management, allowing every employee to play a role in its development.

The employees' congress serves as a vital communication channel between Sinopec Corp. and its employees. The Company has formulated the *Measures for the Implementation of the Employees' Congress of Units Directly under Sinopec Corp.* to clarify the basic principles, scope, and procedures for the establishment of the congress. It has also established and improved the system for directors and supervisors, providing a framework for employee representatives to fulfil their duties and participate in corporate governance in a lawful and organised manner. To further strengthen the democratic management of enterprises, the Company has set up specialised working groups to conduct democratic management research in an "online + offline" way. The Company regularly encourages employee representatives to make proposals regarding issues such as safety production, environmental protection, enterprise management, production and operation, salary distribution, employee education and welfare. The responsible departments are required to gather and provide feedback on these proposals. Meanwhile, a sound closed-loop feedback mechanism for processing proposals has been established, and the unprocessed proposals are submitted to the employee representatives in writing in a timely manner to give reasonable explanations.

The Company actively organizes and carries out collective consultation, gathering the opinions of employee representatives in the process. Furthermore, it strengthens the communication between the labour union and the human resources department, and works together to negotiate the terms of the collective contract and special contract. After approval by the employees' congress, the labour union representative and the human resources representative sign the contract, ensuring that it accurately reflects the needs and interests of employees and protects their rights.

In addition, the working committee of the Company's labour union insists on carrying out "thousands of grass-root family visits" to engage with employees and their families. The committee has established and improved the long-term "visiting" mechanism, encouraging leaders at all levels to visit grass-roots teams and employees' families, listen to employee concerns, gather feedback, and actively address pressing issues. In 2022, the working committee of the labour union paid visits to employees and solved practical issues for them, with a total of 18,000 problems identified, of which 17,000 were solved.



In 2022

6,548 proposals

were collected from employee representatives

2,902 proposals

were filed

100%

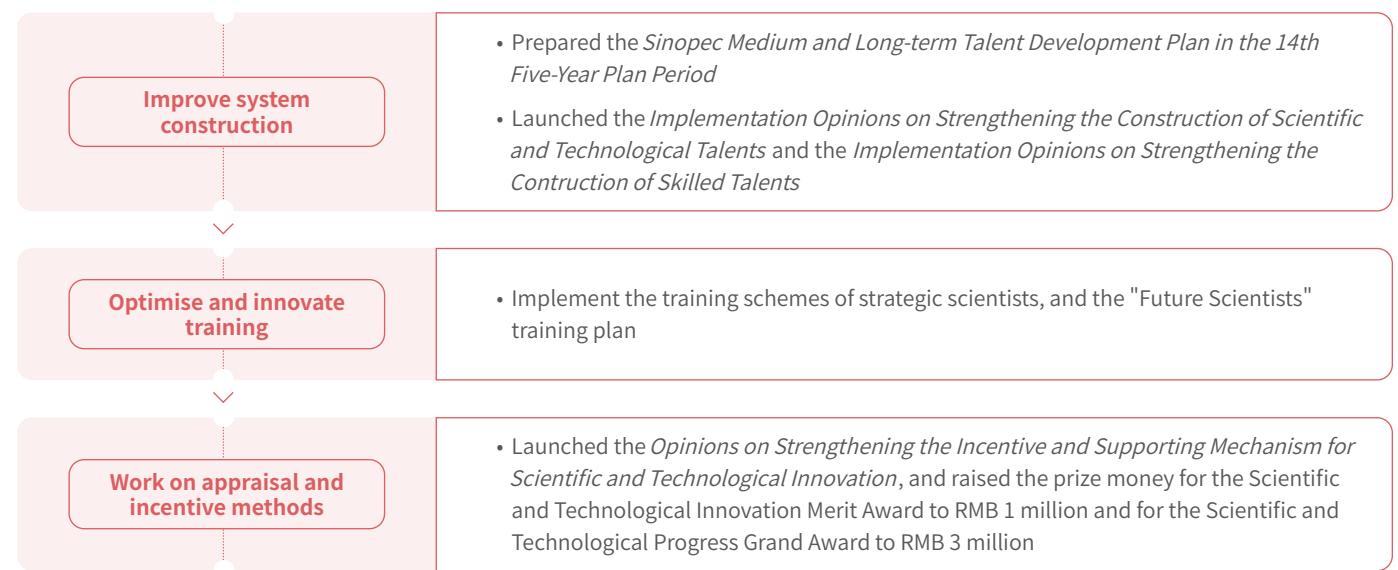
proposals implementation and response rate

Human Capital Management

Human Resources Risk Management

Sinopec Corp. continues to improve the salary and welfare system, strengthen human resources risk management, prevent the risk of brain drain, and actively introduces high-level talents, prioritises the development of a scientific and technological talent team, constantly works towards building a dynamic and talented workforce and takes a solid and powerful step towards the construction of a major talent gathering hub and innovation highland in the energy and chemical industry.

Human Resource Management Measures



In 2022, a group of outstanding talents won national honorary titles, including two winners of the Geological Society of China Field Youth Geological Contribution Award, one winner of Outstanding Female Geological Scientist, one winner of the Chinese Skills Award, and three winners of the National Technical Expert.

In terms of talent introduction and allocation, the Company implements a differentiated talent introduction strategy and establishes a three-dimensional approach and a flexible talent acquisition channel. By focusing on targeted talent acquisition, leveraging external resources, and actively participating in the national high-level talent introduction plan, Sinopec Corp. vigorously implements the "Double Hundred Plan" to attract high-level talents at home and abroad. This has led to a steady increase in the number of high-level talents. In 2022, the Company introduced nearly 10,000 graduates to fully guarantee the strategic reserve of talents.

Salary and Benefits

The Company implements a parallel distribution policy for salary and non-salary incentives, utilising targeted hierarchical management. Its multi-dimensional and multi-level salary distribution system takes into account the value of the position, ability level, and performance contribution. This system covers basic salary, performance bonuses, and medium- to long-term incentives. The Company actively benchmarks its salary performance against the market and, integrates these findings to enhance our salary competitiveness to key, core talent and create a fair salary distribution structure.

The Company has established and continuously improved the employee remuneration and welfare security system, ensuring the timely and full payment of the pension, medical, work-related injury, maternity, unemployment and other social insurance and housing provident fund for employees in accordance with the relevant national and local policies and regulations. It has also established a unified enterprise annuity system, and organised supplementary medical insurance for employees. In addition, the Company strictly implements the relevant policies and regulations of the state on maternity leave, parental leave and other employee welfare.



Employee Training and Development

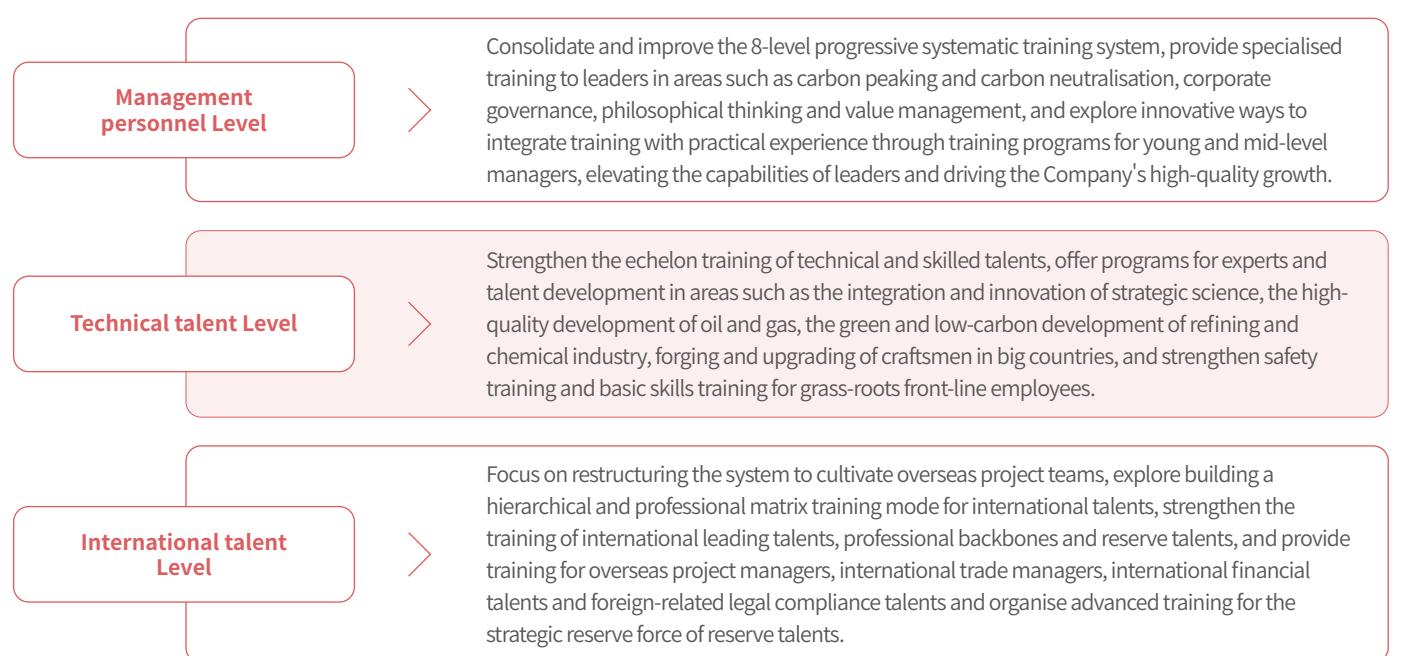
Employee Training

Guided by the principle of "building an important talent gathering centre and innovation highland", Sinopec Corp. is committed to fostering both vertical and horizontal talent development growth opportunities for its employees. The Company provides multi-level, multi-angle and multi-directional development paths to enable employees to acquire knowledge and skills, and to gain valuable professional experience.

The Company continues to enhance its top-level design of employee training and prioritises the development of key personnel such as managers, technical and skilled workers, and international talents. It aims to build a high-quality, high-level employee education and training system and has developed the *Outline of Sinopec Education and Training System*, which provides path planning and strategic guidance for talent growth and organisational capacity improvement. The Company facilitates training experience exchange among grass-roots front-line employees, raises the quality of front-line employee training, and accelerates the co-construction and sharing of high-quality training resources. In 2022, the Company carried out a total of 33 key training programs, training 5,732 participants. The Sinopec Network College trained a total of 6,375,520 participants, with more than 60 million hours of study. In 2022, investment in vocational training reached RMB 871 million.

Indicators	2020	2021	2022
Online training participation (person-times)	1,259,800	6,152,170	6,375,520
Total amount of online training (hours)	27,721,300	51,432,900	60,847,600

Establishing a Multi-level Training System



Refining the Cooperative Training Mode

The Company is committed to building a new cooperative talent training mode between schools and enterprises. On the one hand, it continues to foster partnerships with domestic higher institutions, on the other hand, it continues to deepen joint training projects with prestigious universities worldwide and actively promotes the new apprenticeship system. The Company and Imperial College London collaborate in training young scientific and technological talents and build a reserve talent echelon in the field of science and technology. From 2019 to 2022, a total of 5 batches of 14 students received the Sinopec Doctoral Scholarship.

Promoting the Upgrading of Vocational Skills

In accordance with the *Management Regulations on the Professional Title Evaluation of Sinopec Corp.* and the *Management Regulations on the Professional Skill Level Recognition of Sinopec Corp.*, the Company continues to promote the reform of professional title evaluation and professional skill level recognition, and actively carries out talent evaluation. The "Skills Promotion Action", "Skills Competition Action", and "Skills Innovation Action" are implemented to encourage the transformation from "Elite Competition" to "Full Competition". In 2022, the Company declared and undertook 4 national Class II competitions, 5 company-level Class I competitions and 4 Class II competitions; 301 employees passed the evaluation of senior (professor-level) titles and 909 employees were awarded senior technicians.

In 2022, Sinopec Corp.'s "Zhaoyang (Morning Suns) Program" training system for young talents won the 2022 Corporate Leadership Award of the International Association for Continuing Engineering Education affiliated with United Nations Educational, Scientific and Cultural Organisation (UNESCO), becoming the only Chinese enterprise to win this honour in the past 10 years.



Specialist technicians conduct the in-depth training at production sites



"Teacher-apprentice" improves staff skills and operational level



Sinopec Corp.'s "Zhaoyang (Morning Sun) Program" aimed at nurturing young talent won the "2022 IACEE Award for Corporate Leadership in Continuing Engineering Education", becoming the only Chinese enterprise to win the award in the past decade

Featured case

In June 2022, the International Association for Continuing Engineering Education (IACEE), an unofficial organisation affiliated with UNESCO, announced the "2022 IACEE Award for Corporate Leadership in Continuing Engineering Education". Sinopec Corp. was honoured to be the only Chinese enterprise in the past decade to receive this award for its successful implementation and innovative approach to the "Zhaoyang Program" training system for young talents. This recognition has boosted Sinopec Corp.'s brand reputation and increased the international impact of Chinese enterprises in the field of human resource management, particularly in the area of talent learning and development.

The "Zhaoyang Program" for young talents is a talent training project launched and implemented by Sinopec Corp. for its 150,000 young employees. Starting with newly recruited college and university graduates, and considering the aims to support the growth strategy of Sinopec Corp. and improve the career prospects of its new hires, the program is delivered in a progressive and systematic manner, with three stages: "Breaking Dawn", "New Rising Sun" and "Flaming Red Rising Sun". Taking into account their actual situation, Sinopec Corp.'s subsidiaries studied and put forward detailed implementation measures and plans to include all new employees in the "Zhaoyang Program", and training was provided at each stage to various young talents. The quality training system was improved to include source training, follow-up training and whole process training. Innovative training was also provided, including the young leaders training, the "Young Marxist Training Project" training, the "Future Scientists" training, the outstanding engineers cultivation training and the internationalised operation strategic reserves intensified training, resulting in significant training outcomes.

The Council of IACEE recognised Sinopec Corp.'s "Zhaoyang Program" training system for young talents as a model for innovative and effective training, and praised the project for its systematic planning of training paths, integrated and innovative training model, integrated school-enterprise cooperation, optimised training organisation and operation, continuous improvement of training quality and gathering advantageous resources from all sides. The "Zhaoyang Program" has set an example for other enterprises globally and showcases the world-class leadership of Sinopec Corp. in continuing engineering education.



International Association for Continuing Engineering Education

Confers this

**IACEE Award for Corporate Leadership in
Continuing Engineering Education
Given in Memory of Glen L. Martin**

on 10 June 2022 to

Sinopec

In Recognition of Outstanding Commitment and
Support to Continuing Engineering Education

Soma Chakrabarti

Soma Chakrabarti, PhD
IACEE President

Nelson Baker

Nelson Baker, PhD
IACEE Secretary General

Career Development

The Company is committed to developing a scientific, transparent and diversified career development path for its employees, and establishing a standardised channel for talent growth. It is constantly looking for ways to expand the opportunities for career advancement horizontally and vertically. Additionally, the Company is actively working to improve its expert management system, which plays a crucial role in guiding and inspiring employees to reach their full potential.

In 2022, the Company revised and improved the *Sinopec Corp. Expert Management Measures* and the *Sinopec Corp.'s Selection and Management Measures for High-level Skill Positions* to develop a longitudinally smooth and horizontally coherent talent development mechanism. Longitudinally, the Company has expanded the fields for expert positions. Based on selecting and appointing three chief scientists of group companies, the position of Chief Engineering and Technology Master was set up and expert selection and appointment work was carried out. Horizontally, Sinopec Corp. has broken down the barriers of cross-sequence horizontal development, promoting transfers of positions across teams and establishing a mutual recognition policy for vocational skill levels and professional titles.

Performance Appraisal

Sinopec Corp. has established a hierarchical and classified performance appraisal management system that covers all employees and carries out differentiated annual performance appraisals for employees of different levels and categories. The appraisal process emphasises performance assessment orientation, covering work performance, work ability and work style, and strives to openly, comprehensively and truly reflect the work situation of employees. Meanwhile, the results of the appraisal are communicated back to the employees in a timely manner to ensure that the appraisal management can fully play a positive role in supporting their professional growth and development. For management employees, the Company has formulated differentiated performance appraisal responsibility documents aligned with the position and work division of management employees. Assessment indicators, target values and appraisal weights are defined, taking into account both the overall performance of the Company and the performance of the business units they oversee, and the appraisal scores and results are determined in strict accordance with the completion of each indicator. The annual remuneration level of management employees is tied to their performance appraisal results.

The Company included key ESG indicators as binding indicators in the annual performance assessment for the leadership team of business units and subsidiaries, including indicators on production safety, anti-corruption, energy conservation, environmental protection, addressing climate change, quality management, operational compliance, etc. Among them, production safety indicators include but are not limited to penalties for safety violations, contractor safety, etc.; energy conservation, environmental protection and addressing climate change indicators include but are not limited to greenhouse gas emissions, pollutant discharges and emissions, energy efficiency management, penalties for environmental violations, etc. Management staff who have failed to meet the appraisal targets will have their comprehensive appraisal score deducted accordingly. In addition, the Company has linked the annual performance bonus of the leadership team to their appraisal result on response to climate change. For each point deducted, a certain percentage of his/her annual performance bonus will be reduced accordingly, up to 20% of the total amount. In case of particularly significant safety, environmental and quality accidents or incidents, the comprehensive appraisal results will be directly reduced to "unqualified".

By the end of 2022, Sinopec Corp. had 24 academicians, 7 national young and middle-aged experts with outstanding contributions, 22 national candidates for the National Hundred, Thousand, and Ten Thousand Talent Project, 9 overseas high-level experts, 375 on-the-job employee enjoying special government allowances, 8 winners of the China Skills Award and 104 winners of the National Technical Expert.

Employee Care

The Company conducts a long-term survey on its employee support and assistance efforts, strengthening the research on the compliance management policy of employee support and assistance. To continuously improve its employee support and assistance working mechanism, the Company provides targeted support and assistance to employees and their families who are in difficulty. This is done through partner assistance and volunteering programs, providing "meaningful support for those in real difficulties". Its labour unions at various levels organised normalised activities to give support to people in need and strengthened the service to expand the scope of assistance and cover more people. Meanwhile, the Company also places a strong emphasis on the mental health of its employees, offering group-wide EAP services and diverse online and offline sports and recreational activities, promoting work and living for employees with happiness and health. In 2022, the Company provided targeted supports and assistance 196,164 person-times through labour unions at various levels.

06

Fulfilling Social Responsibility

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Contributing to Social Philanthropy

Contributing to Rural Revitalisation and Common Prosperity

Deepening the policy "One County, One Chain" and broadening the channels for farmers to increase their income and become rich

Upholding the principle of supporting rural revitalisation and common prosperity, the Company actively participates in the establishment of a social contribution system to improve people's livelihood and well-being and promote social equity. The Company has been carrying out nationwide social philanthropy and voluntary activities and has explored and developed a number of Sinopec-style support and assistance mode. Sinopec Corp. is dedicated to addressing people's concerns, improving their lives, and contributing to social development.

According to the *14th Sinopec Five-Year Plan for Rural Revitalisation*, the *Sinopec Implementation Plan for Education Support*, and the *Sinopec Implementation Plan for Rural Revitalisation through Product Consumption*, the Company accelerates the implementation of poverty alleviation projects on fields of industry, education, and consumption, making practical contributions to rural revitalisation and common prosperity. In 2022, the Company invested RMB 211 million in assistance funds, and introduced RMB 231 million in assistance funds for poverty alleviation. It also trained 65,300 participants, and assisted in marketing RMB 1.156 billion worth of products from targeted poverty areas, leading to new heights in poverty alleviation indicators in six targeted counties. 70 directly affiliated subsidiaries undertook the task of relieving 616 villages from poverty. The Company dispatched 927 cadres stationed in villages and recruited 31 internal volunteers to participate in the education and construction of targeted counties.

The Company continues to improve its "one county, one chain" poverty alleviation mode and industrial development plan, promoting the integration of industrial development and poverty alleviation through consumption, forming a positive cycle of "production promoting marketing, marketing-oriented production, mutual promotion of production and marketing, and two-way promotion". The aim is to extend the industry from farming to deep processing of products, and establish each county with a high-quality agricultural product industry chain and a number of market-competitive products, creating a full chain support mode combining "industry + consumption" and "one county, one chain".

Variety cultivation + intensive processing

- Starting with the source of the industrial chain, Sinopec Corp. promoted the industrial chain of agricultural products developing from primary processing to intensive processing through large-scale planting, acquisition, storage, transportation and processing. With the assistance of Sinopec Corp., Dongxiang County Quinoa Processing Industrial Park (Phase 1) has been in production smoothly.

Brand building + flagship industry cultivation

- Relying on the Company's advantages in management and human resources, Sinopec Corp. explored the establishment of a multi-party cooperative development model of "government + scientific research institutions + enterprises + new business entities + farmers" to help regional characteristic industries to gain larger, stronger and better development.

Professional operation + powerful marketing

- The Company gave full play to its advantages of specialised operation and sales channels to help the integrated development of the tertiary industry in rural areas. In 2022, the Company sold more than RMB 70 million of Dongxiang quinoa by increasing offline marketing efforts and organising social philanthropy live streaming named "Charity Selection".

Strengthening educational assistance, running local schools

Starting from hardware and software, centreing on promoting educational assistance from campus, teachers and students, the Company explored a new mode of "collectivised, three-dimensional and paired" educational assistance, aiming to effectively improve the level of basic education in rural areas and create a better environment for children's growth and success.

"One-to-one" pairing

- Gradually expanded the coverage of "cloud classroom", promoted the programme of "Having the Same lesson" in schools in the east and west of China, and significantly improved teaching quality.
- More than 2,000 teachers have been trained, and more than 170 mentoring pairs of "Lanq Master and Apprentice" have been established.
- Mobilised the Company's employees to pair up with local students, and totally helped more than 1,500 students.

"Collectivisation" assistance

- Carried out deep cooperation with the China Children and Teenagers' Fund, implemented the "Spring Bud Power Station" to help girls, built 11 "Girls' Growth Friendly Spaces" and distributed 1,500 "Schoolbags of Spring Bud Love".
- Conducted mandarin promotion activities named "Childlike Innocence to the Party, Contribute with Love" among 8,000 teachers and students in 15 schools receiving the assistance from Sinopec Corp. in western China.

"Three-dimensional" assistance

- Invested a total of RMB 50 million in hardware renovation, such as equipping intelligent interactive blackboards and upgrading campus libraries.
- Sent a total of 245 volunteers to the schools receiving assistance from Sinopec Corp. for a total of 1,196 days.
- Mobilised the EAP counselors of Sinopec Corp. to organise more than 500 psychological counseling sessions for teachers and students.
- On the basis of the pairing of sister schools, Sinopec Corp. invited experts and famous teachers to enhance the training of local teachers by adopting the mode of "expert guidance + case study + practice exercise + achievement demonstration".

Giving full play to the advantages of channels, building a support model of "industry + consumption"



Sinopec Corp. launched the five-year work plan to help Dongxiang

Featured case

On February 8, 2023, Sinopec Corp. and the People's Government of Dongxiang Autonomous County, Linxia Prefecture, Gansu Province signed the *Framework Agreement on the Five-Year Work Plan for Sinopec Corp. to Help Dongxiang County*. In the next five years, Sinopec Corp. will provide further support to Dongxiang by investing over RMB 500 million in assistance funds, helping the county achieve its goal of rural revitalisation.

Dongxiang Autonomous County was once considered a severely poverty-stricken area, designated as one of the "Three Regions and Three Prefectures", and the primary target for poverty alleviation in Gansu Province. Since 2013, Sinopec Corp. has made significant efforts to provide paired assistance to Dongxiang. The Company has invested over RMB 700 million in assistance funds, implemented 236 assistance projects, and benefited over 154,000 people. The first "Spring Bud Power Station" was built at Dongxiang Petrochemical Middle School, designed as a girl-friendly space. This project has received high praise from both the local government and residents.

Coordinating Production with Marketing: Bringing Agricultural Products to Thousands of Households from the Field

Sinopec Corp. constantly optimises its "production, supply, and marketing" operations, leverages its strengths in channels, marketing, and flow, and creates a special support model of "driving sales through channels, driving the development of industries through sales, and promoting revitalisation through the development of industries". Through these efforts, Sinopec Corp. has injected vitality into Dongxiang and helped locals increase their income.

Enlightening Locals through Education Assistance: Allowing Children to Enjoy Better Education

Sinopec Corp. regards education assistance as the top priority. The Company supported the Bulengou Primary School, which has helped address the issue of local children facing difficulties in attending school. Moreover, the Company set up Sinopec Fellowship and provided support for the hope project "Care for Girls". In July 2022, Sinopec Corp. and the China Children and Teenagers' Fund jointly launched the "Spring Bud Power Station" public welfare project under the guidance of the All-China Women's Federation. The first "Spring Bud Power Station," designed as a girl-friendly space, has been built at Dongxiang Petrochemical Middle School. Over the past ten years, Sinopec Corp. has invested a total of RMB 174 million in implementing 28 assistance projects and supporting 881 students in need, promoting high-quality and balanced development of education. To date, with pairing assistance and the designated support from Sinopec Corp., 11 Spring Bud Power Stations have been built successfully.

On February 8, 2023, Sinopec Corp. conducted a survey titled "Bearing in Mind the Mission and Further Promoting Rural Revitalisation" in Dongxiang. During the survey, Ma Yongsheng, chairman of Sinopec Corp. and an academician with the Academy of Engineering, gave an on-site lecture "First Class Begins" based on the significant changes brought about by the Company's poverty alleviation practices in Dongxiang over the past decade.

To drive rural revitalisation, Sinopec Corp. has been continuously promoting regional industrial development, education enhancement, product sales, employment, and rural governance at Dongxiang according to local conditions. The Company has been sending appointed cadres and volunteers to strengthen the "whole industry chain" for various industries, especially the quinoa industry. The Company planned to increase the number of aided schools to 15 to expand the impact of the "Spring Bud Power Station" as a girl-friendly space and help improve the overall education level in Dongxiang. Moreover, the Company has been promoting high-quality development of the local economy by expanding employment opportunities and increasing residents' income.

Public Welfare Action

Sinopec has participated in a series of public welfare projects for many years to actively give back to society, such as "Sinopec Lifeline Express", "Warm Stations Programme", "Sanitation Workers' Stations Programme", "Driver's Home Programme for Truck Drivers" and "Spring Bud Project for Young Girls". Also, the Company upholds the volunteer service spirit of "dedication, fraternity, mutual-assistance, and progress", and encourages its employees to actively participate in volunteer activities to contribute love and warmth to the society. In 2022, Sinopec set up 3,132 youth volunteer service teams, and 87,000 young people from Sinopec voluntarily registered as young volunteers. They have been actively contributing to rural revitalisation, service guarantee for major events and community harmony construction.

In 2022

The service times of volunteers were
0.965 million person-times
with a service duration of
1.601 million hours

"Home on the Road": "Driver's Home Programme" and "Warm Stations Programme"



Sanitation workers taste sweet soup balls at "Warm Stations"



Employees of Taizhou Company volunteer to help farmers harvest Wenda

The Company has built the gas station into a window for volunteer services by setting up "Driver's Home" and "Warm Stations" to provide warm services such as rest, catering, hot water, bathing, laundry, parking, and charging for outdoor and new forms of workers such as truck drivers, sanitation workers, and couriers. It has made every efforts to build a "home on the road" for outdoor workers.

By the end of 2022, Sinopec Corp. has built and operated 3,586 Drivers' Homes and 5,415 Warm Stations across China.



Southeast Guizhou Company carries out the Start of Winter activity, "Heart-Warming Dumplings Share the Taste of 'Home'"

An Express for Regaining Sight: "Sinopec Lifeline Express"

"Sinopec Lifeline Express" marks the first health express donated by domestic enterprises. It is equipped with advanced ophthalmic diagnosis and treatment equipment and professional doctors, with a success rate of cataract surgery more than 99%. The Express enters three regions each year, and stays in each region for three months, treating an average of 3,000 patients annually.

Over the past 18 years, the Company has donated RMB 184 million to public welfare undertakings of Health Express, entered 44 service points in 18 provinces (autonomous regions), and helped more than 50,000 poor cataract patients and their families to get out of the predicament.

The Company also donated 23 cataract treatment centres and provided technical training and advanced diagnostic and therapeutic equipment for local ophthalmologists, serving as "Sinopec Lifeline Express" that never leaves.

"Desert Health Express": Medical Assistance Volunteer Service Project in Remote Areas



"Desert Health Express" medical volunteer service

The "Desert Health Express" medical volunteer service team of Northwest Oilfield was established in May 2015 by leveraging the resources of the gas-defence medical station at the Northwest Oilfield Public Security Fire Control Centre. The team signed cooperation agreements with the Beijing Road Medical Area of the General Hospital of Xinjiang Military Region and the people's hospitals in Bazhou, Luntai County, Kuqa City, and Shaya County to set up emergency green medical channels. Additionally, the team has implemented a volunteer service model that involves "pairing up" with the masses, providing "menu-based" medical consultations, and utilising hospital linkage to enhance medical care.

The team is composed of 27 medical personnel with professional rescue qualifications, covering the southern Xinjiang work area of Northwest Oilfield and surrounding towns and villages. The team engages in extensive volunteer work, including self-rescue and mutual-rescue knowledge dissemination, telemedicine consultation, free medical treatment, medical delivery, and health knowledge lectures. As a result of their dedication, the team has been praised by the locals as the "lifeline of the desert". In 2022, the "Desert Health Express" medical assistance volunteer service project in remote areas won the bronze prize in the 6th China Youth Volunteer Service Project Competition.

Offering services for 2,769 days in total.

Providing 126 training sessions on prevention of common diseases, trauma first aid, and cardiopulmonary resuscitation, with more than 10,800 attendances.

Opening up a health consultation hotline, and offering more than 12,600 consultations.

Organising more than 30 medical treatment trips to patients in the countryside, helping out more than 7,000 villagers, transferring 1,716 patients with sudden illness, delivering 5 newborns, and saving 307 lives from the death line.

Helping Homebound Migrant Workers during the Spring Festival

For ten consecutive years, Sinopec Corp. has been launching a large-scale public welfare activity called "Warm Stations Help Homebound Migrant Workers during the Spring Festival". With gas stations as the service platform, Sinopec Corp. has provided free refuelling for "Homebound Migrant Workers on Motorcycle" in key areas such as Guangdong, Guangxi, and Jiangxi, as well as free services such as hot porridge, ginger soup, rest room, and baby care room. In 2022, the "Warm Stations Programme" was transformed and upgraded by incorporating 243 new gas stations to provide nearly 20 kinds of free convenience services for outdoor workers and left-behind personnel, such as emergency medicines, hot water, and hot food.

Over the past ten years, Sinopec Corp. has served more than 53 million migrant workers returning to rural areas during the Spring Festival by providing more than 48,000 volunteer services and refuelling more than 132,000 litres of 92,000 motorcycles free of charge.

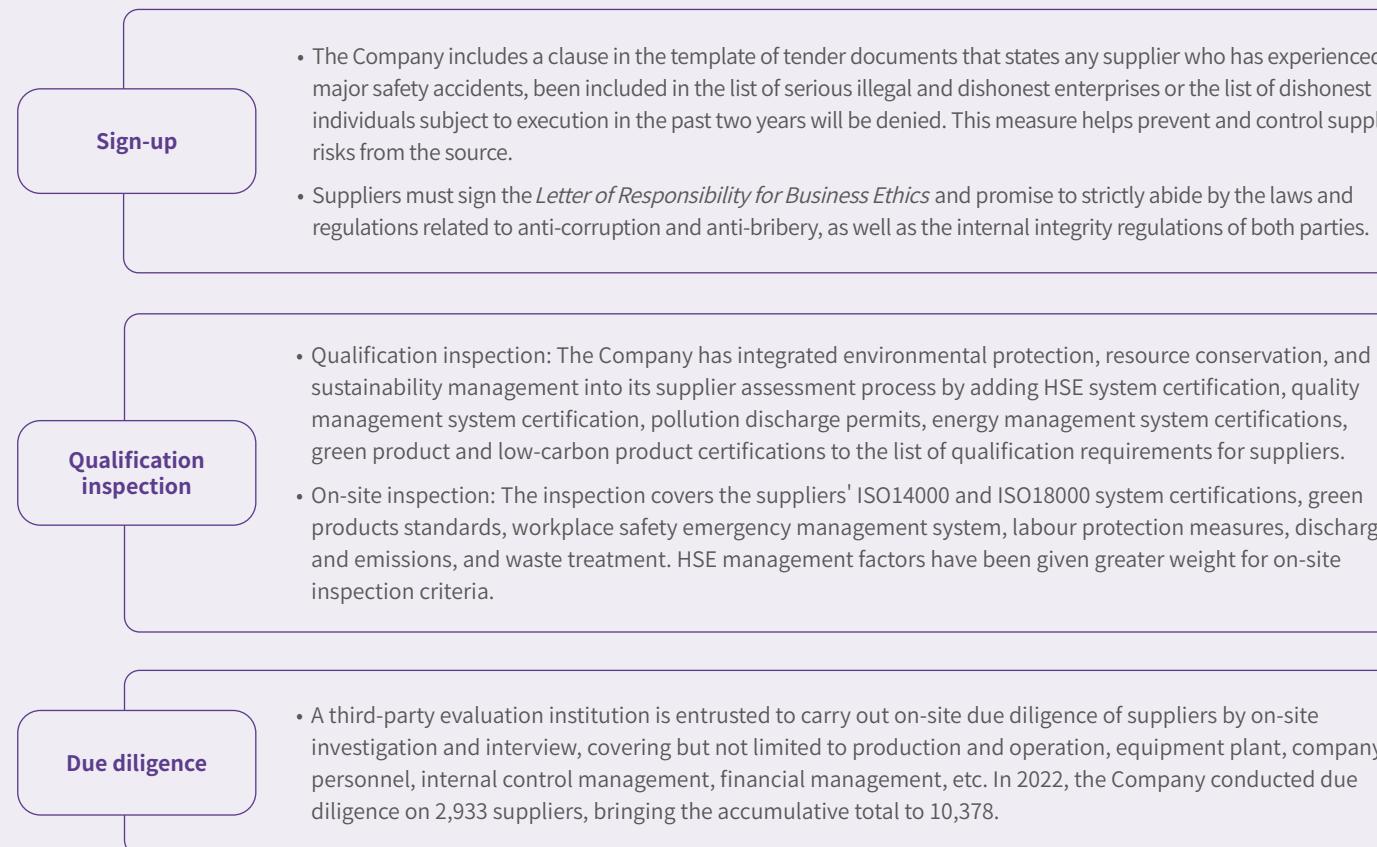
Sustainable Supply Chain

Supplier Management

Sinopec Corp. always attaches great importance to the optimisation of supply chain management, and insists on incorporating ESG into its suppliers and contractors management system. The Company actively promotes the principle of honest, safe, timely, green and economic procurement, building a compliant, green and responsible procurement system. The Company prioritises the ESG performance of suppliers and contractors and encourages them to strengthen sustainable development management and practices through risk identification and management mechanisms and supporting social and environmental risk prevention systems.

Sinopec Corp. evaluates the ESG performance of suppliers in social responsibility, environmental protection, resource conservation, safety management, and other aspects by incorporating health and safety and environmental protection requirements into the supplier qualification audit process. This evaluation process encourages suppliers to continuously improve their own governance level and practise sustainable development. Meanwhile, to further improve the standards and systems of green procurement, the Company compiled and issued the *Key Points of Green Procurement Work for Sinopec Corp.* in 2022 based on the existing green procurement management measures to actively advance the development of "Three New" industries, to comprehensively promote the transformation of green and low-carbon procurement.

ESG Risk Management for Suppliers



Vigorously Promoting Green Procurement

In 2022, the Company issued the *Key Points of Green Procurement Work for Sinopec Corp.* and the *Green Material Procurement Catalogue for Sinopec Corp. (2022 Edition)* to implement the national energy efficiency enhancement plan. These measures aim to optimise energy-saving technology and equipment, and comprehensively promote the upgrading and procurement of products. To strengthen its commitment to sustainability, Sinopec Corp. incorporates green evaluation indicators such as green management system construction, clean production, safe production, treatment of three wastes, green warehousing, packaging, and logistics into supplier evaluation standards. Moreover, it clarifies the selection conditions and requirements in procurement plans, bid evaluation methods, and contract terms to encourage suppliers into developing green technologies and green products. In this way, it offers support and guidance for the green transformation of suppliers. In the meantime, the Company continuously strengthens the search and cultivation of energy supply resources in geothermal, hydrogen, photovoltaic, wind and other new energy fields, and actively serves the development of the "Three New" industries.

Contractor Management

To continuously encourage contractors into enhancing their responsibility performance, the Company incorporates ESG-related requirements such as openness and transparency, integrity, anti-corruption, HSE qualification and management, safety and environmental protection qualification and management, in its management systems such as the *Sinopec Management Measures for Market Integrity System of Construction Projects*, the *Regulations on Sinopec Quality Accident Management*, the *Management Regulations on Sinopec Production Safety Accident*, the *Management Measures on Sinopec's Scoring and Quantitative Assessment of Project Contractors*, and the *Management Regulations on Sinopec Engineering Construction and Maintenance Contractors*.

The Company constantly promotes the scoring and quantitative assessment of contractors and employees, and assesses contractors' safety, quality, progress, comprehensive management and other behaviours. The Company assesses these behaviours through event records, urging contractors to comprehensively review and improve their own practices. In 2022, the Company scored 2,857 direct operators for safety and identified 67 operators who were given "compulsory departure", and 134 operators were given "suspension of operation qualification". In addition, by applying the contractor management information platform, the Company realised the comprehensive management of contractors and employees, and significantly improved the management and control level.

Community Communication and Engagement

Assessment of Impact on Community

Sinopec Corp. prioritises coordinated development with the communities where it is operated, and takes swift action in identifying, assessing, and resolving any risks that may conflict with the community. The Company implements a community communication mechanism and development participation plan that respects the cultural customs and rituals of the community, promoting the win-win situation of enterprise development and community prosperity.

The Company formulates social impact assessment procedures covering key stages before project commissioning, such as project proposal development, construction scheme formulation, and environmental protection acceptance, to ensure that the whole life cycle of the project complies with national and local environmental laws and regulations. Overseas subsidiaries often hold public hearings in the communities where they operate before engaging in important construction and production activities. This allows locals to voice their opinions and ensures that community and resident interests are protected as much as possible.

In 2022, the Company issued the *Sinopec Notice on Strengthening the Prevention and Control of Noise Pollution* to investigate risks from the aspects of strengthening the prevention and control of noise pollution in new projects. The notice focused on consolidating noise pollution control in production enterprises, strictly controlling noise pollution in construction sites, engaging in noise monitoring and information disclosure, increasing research and development of noise pollution prevention and control technologies, and personnel training. The comprehensive remediation of noise pollution shall be included in the scope of special investigation and remediation of the Company's environmental protection compliance in accordance with the law, and the *Sinopec Noise Pollution Prevention and Control Compliance Checklist* shall be prepared and incorporated into the environmental protection information system for real-time monitoring.

Project proposal development

- The Company added a special chapter on environmental protection in the project proposal design and feasibility study report, identifying environmentally sensitive targets, and formulating corresponding pollution prevention and ecological protection measures in combination with national and local environmental protection policies and management systems such as the *Management Measures on Environmental Protection of Sinopec* and the *Management Regulations on Sinopec Pollution Prevention and Control*.

Preparation of construction scheme

- The Company organised an environmental impact assessment, and entrusted a third-party assessment agency to prepare an environmental impact assessment report. The approval requirements of environmental impact assessments are incorporated into the special chapter on the environmental protection of the construction scheme. During public participation in environmental impact assessments, the Company actively seeks opinions and suggestions from surrounding communities.

Environmental protection acceptance

- After the project construction begins, the Company conducts regular checks to ensure that environmental protection measures are being implemented properly during the construction phase of projects in accordance with the requirements of the environmental assessment. Upon completion, the Company also organises timely inspections and acceptance of the projects in terms of environmental protection to ensure that they are put into operation in compliance with relevant laws and regulations.

Community Communication Mechanism

Sinopec Corp. establishes an environmental information disclosure system that ensures timely and lawful disclosure of environmental information. Moreover, it also sets up pollutant discharge signs outside the stations where pollutants are discharged, which display information such as the main processes, types of pollutants produced, and amount of pollutants discharged. Complaint hotlines are also provided for the public to report any environmental issues. More details on the environmental complaint mechanism can be found in the section "Environmental Protection Management and Targets" of this report.

In 2012, the Company initiated the activity "Opening the Door to Run Enterprises", which was later upgraded to the large-scale brand activity "Sinopec Public Open Day" in 2016. Over the past decade, the Company has invited various stakeholders, including community residents, students, government officials, and media reporters to visit the site, totalling more than 220,000 visits. Through live broadcasting, the event has been attended by over 80 million people online. This has made it the first public open day event for state-owned enterprises and the largest public open day event for industrial enterprises in China.

Furthermore, the Company proactively organises popular science activities to facilitate communication with the public on the petrochemical industry, energy-saving and environmental protection initiatives, etc. Six popular science activities, including "Exploring Intelligent Energy Public Open Day", "'Popularising Shale Gas Knowledge' Special Public Open Day", "Embracing the Win-win Future of Carbon Peaking and Carbon Neutrality - Geothermal Science Popularisation Exhibition", "Special Activity on Shale Gas Science Popularisation", "'Entering Yangzi' Science Popularisation Summer Camp", and "'Red Scarfs' Seeking for the Ways to Serve China through Industries" were selected as the excellent activities of the National Science Day in 2022.

Case

Since 2011, Jinling Petrochemical Company has established and continuously improved the reward system for environmental protection reporting to encourage the surrounding communities and all employees to actively participate in environmental protection supervision. The company set up a special hotline for receiving environmental protection supervision reports and encouraged anyone who detects abnormal odour to call and report the situation. Upon receiving a report, Jinling Petrochemical Company immediately conducts tracing, searching, and analysis. If the odour is caused by production, the relevant subsidiaries are promptly urged to rectify the issue; if the odour is caused by an external source, it will also be promptly reported to the informer to jointly supervise and improve the regional atmospheric environmental quality. To incentivise the public to participate in environmental protection supervision, Jinling Petrochemical Company offers telephone card rewards to those who actively participate in environmental protection reporting. This initiative has effectively motivated the public to get involved in environmental protection supervision and jointly build odour-free factories.

Establishing a Reward System for Environmental Protection Reporting

Community Participation Programme

The Company firmly upholds its commitment to "repaying the local area and contributing to the prosperity of the local economy", by actively engaging in community development support work and promoting local community construction and economic development. Its overseas subsidiaries strictly implement the tax payment requirements in accordance with local laws, abide by international safety, health, and environmental protection standards, and give priority to the employment of local employees. Moreover, they strive to increase the localisation ratio of employees, provide job opportunities for local talents, improve the well-being of residents in local communities, advance the sustainable development of the community environment, and achieve mutual growth between the Company and the community.

	CIR in Kazakhstan	Mansarovar in Colombia	UDM in Russia
Staff Localisation Ratio	96%	96%	99%

Case

Helping Villagers Solve the Urgent Need of Spring Ploughing Production

Sinopec Maoming Petrochemical Company has an industrial diversion canal of more than 20 kilometres long that flows through "Two Cities and One District". It is not only a special canal for oil refining production, but also undertakes the task of guaranteeing irrigation water for more than 50,000 mu (about 33.3 km²) of farmland along the canal. In order to meet the local irrigation water demand for spring ploughing, Sinopec Maoming Petrochemical Company gains a thorough understanding of the water demand of villages and towns, calculates the total daily industrial and agricultural water consumption, and makes an overall plan for water supply, giving full play to the advantages of the industrial diversion canal while ensuring the normal water use for oil refining production. It aims to make a scientific allocation of water for guaranteeing the irrigation water for farmland along the canal. During the spring ploughing season, its volunteer service team also goes to the farmland along the industrial diversion canal and helps the villagers who lack labour do farm work and solve their urgent needs.

Case

Implementing the Cocoa Development Plan

Mansarovar in Colombia under Sinopec International Petroleum Exploration and Production Corporation has developed a social communication and participation plan to create value for the community where the oilfield is located by supporting the development of local education, public infrastructure, health care and so on. Since 2018, it has implemented the Cocoa Development Plan to help develop the cocoa industry in the Medio region of Magdalena, with a cumulative investment of more than 3.2 billion pesos, bringing benefits to more than 400 families. In 2022, it has successfully fulfilled all the commitments of the Cocoa Development Plan, effectively improved the production efficiency of the local cocoa industry, and strengthened the production base of Colombian agroforestry producers and cocoa cooperatives.



Product and Service Management

Quality Management

Adhering to the tenet of "high quality, sufficient quantity, and customer satisfaction", Sinopec Corp. has always focused on the customer-centred business philosophy and made every effort to improve product quality and service level. To achieve this, the Company implements quality management measures throughout the entire life cycle of its products. This approach helps to enhance the service management process, improve the customer experience, and safeguard the rights and interests of its customers.

In strict accordance with the laws and regulations such as the *Product Metrology Law of the People's Republic of China*, the *Metrology Law of the People's Republic of China*, and the *Standardisation Law of The People's Republic of China*, the Company has formulated management documents such as the *Measures for the Quality Management of Refined Oil and Natural Gas*, the *Regulations on the Quality Risk Management of Refined Oil and Natural Gas*, and the *Work Standards for the Quality Inspection Room of Refined Oil and Natural Gas* to strictly control quality risks, fulfil the social responsibility of "every drop of oil is a promise", and provide consumers with safe and high-quality products. All forty marketing subsidiaries of the Company have obtained third-party certification for their ISO9000 quality management systems. In 2022, more than 25,000 batches of samples of the Company accepted random external review at the national, provincial, and municipal levels and were all qualified. In 2022, there were no known incidents involving product recalls.



Taking Multiple Measures to Create Safe and Premium Products

Establishing the internal control indicator system for the oil from external sources

- The Company proposed the concept of "intrinsic quality safety" of refined oil, and took the lead to conduct research on illegal added components in refined oil and their hazards in China. Moreover, the Company created an innovative internal control indicator system for refined oil that includes 21 indicators and 7 detection methods. This system covers gasoline, diesel and denatured fuel ethanol, addressing loopholes in national standards and filling gaps in China.

Establishing the supplier management system

- The Company established two catalogues of suppliers and purchasable production enterprises for unified management by the headquarters, and also set up the red-line principle of "Three Non-procurement".
- The Company implemented a centralised procurement strategy.
- The Company established a sound supplier evaluation system, a supplier interview mechanism, and a red and yellow card system, and built a closed-loop supplier management model for evaluation, shortlisting, assessment, and adjustment.

Improving the quality inspection system

- The Company set up full-time quality management departments in headquarters, provincial and municipal subsidiaries, and established a complete laboratory network.
- By opening up the channel of talents growth and improving the training mechanism for professionals, and strengthening the training for professional competence, the Company built a professional management and inspection team.
- The Company carried out quality spot checks by sales companies, provincial and municipal management departments, taking immediate action to stop unqualified oil products identified in the internal spot check from entering the market.

Building the process quality control system

- Through the construction of "system + technology + standard", the Company built a standardised process quality control system covering the whole process of refined oil circulation to ensure that the warehousing-in, storage, transportation and sales are under control.
 - Warehousing-in: Strictly implement the full-indicator inspection requirements of "national standard + internal control", resolutely recall the unqualified products, and share the return information online to ensure that all warehousing-in oil products meet the required standards.
 - Storage: Implement special line transfer, special tank storage, special pump, special pipe and special tank for unloading, transfer and refitting of oil products; strictly control the outbound inspection, to ensure that no unqualified products are released from the warehouse.
 - Transportation: Implement a "special vehicle for special use and separated transportation of diesel and gasoline" to prevent oil pollution; assign special personnel to track the route of oil tankers through GPS positioning systems to prevent oil quality accidents caused by human factors during transportation.
 - Sales: Strictly manage the oil unloading process, unify and standardise the sampling and testing of oil products before unloading, and refuse to unload any unqualified products; implement the system of keeping oil product samples at the station until sales are completed, to ensure that they are 100% qualified.

Promoting the construction of quality informatisation

- The Company built a laboratory information management system covering more than 340 quality inspection rooms, set up a quality control platform for refined oil products, and established the largest quality database for refined oil and gas products in China.
- By using big data analysis technologies, the Company set up a new management mode of intelligent analysis, management, and control of the quality of refined oil products.

Continuously engaging in quality culture construction

- The Company carried out activities to enhance the quality awareness of all employees and fostered a culture where all employees actively participate in quality management.
- The Company assisted government departments in engaging in quality supervision, and cooperated with the media to publicise quality knowledge for jointly purifying the market environment, and building a quality culture with its own characteristics.



Service Management

Adhering to the "customer-centred" service concept, the Company strictly follows the applicable service and product labelling regulations, continuously optimises service measures, fully strengthens customer communication, listens to customer demands and provides a positive service experience while complying with laws and regulations such as the *Law of the People's Republic of China on Protection of Consumer Rights and Interests* and the *Law of the People's Republic of China against Anti-Unfair Competition*. The Company has established a closed-loop management process of "handling, settlement, and return visit" to ensure timely and proper resolution of the complaints submitted by customers. In 2022, no customer complaints occurred in the sales and service of chemical products of the Company.

The Company strictly complies with laws and regulations in the process of marketing and product promotion to prevent false or exaggerated descriptions, and has produced advertisements in accordance with relevant local laws and regulations, including but not limited to the *Advertising Law of the People's Republic of China*.

Oil Products Sales

Implementing the cleaning and upgrading plan	<ul style="list-style-type: none"> The Company formulated the <i>Operation Manual for Cleaning and Maintenance of Refuelling (Gas) Stations</i> to create a clean and tidy consumption environment.
Strengthening the customer service management	<ul style="list-style-type: none"> Thirty-one provincial and municipal sales companies have completed the centralisation and unification of customer services so that all hotlines and online customer services have been transferred to the national unified customer service centre for handling. About 4.2 million customer service calls were received throughout the year of 2022, of which about 3.02 million were manual customer service calls. All the problems reflected by customers were verified and answered.
Improving service efficiency	<ul style="list-style-type: none"> The Company focused on service problems and carried out "the 100-day Competition". It issued the <i>Operation Manual for Integrated Energy Stations</i> to streamline and optimise business processes, significantly improving the service efficiency of employees. The average time of vehicles entering the station was 287 seconds, which was 13 seconds shorter than that at the beginning of the competition.
Innovating service evaluation methods	<ul style="list-style-type: none"> The Company established a unified information-based and standardised customer service evaluation system. After customers use the e-wallet for refuelling, the system immediately sends the service evaluation information to the customer's mobile phone. Customers can evaluate the service quality from six aspects: service experience, venue environment, commodity recommendation, queuing time, equipment and facilities, and payment and invoicing. The Company enhanced the problem-solving services in the form of video conference, bulletin, briefing, evaluation and promotion of advanced experience, constantly enhancing the satisfaction and participation of customer evaluation.

In 2022, a total of 133 million customers participated in the evaluation, amounting to 367 million customer evaluations, with a satisfaction rate of 99.9%, up by 0.3 percentage points year-on-year; the negative comment rate from customers was 0.07%, with a year-on-year decrease of more than 60%.

Chemicals Sales

The Company is committed to continuously providing customers with efficient and premium services. In 2022, the Company extended the usage of the "Internet + Packaging QR Code" for chemical products, launching the QR code inquiry function of Sinopec's chemicals quality inspection sheets on Sinopec Chememall online platform, and integrating the chemicals quality inspection sheets of 37 enterprises on the website. Customers can scan the QR code on the packaging bag through a mobile app to obtain the electronic quality inspection form of the corresponding batch of products. This initiative has been widely praised by customers for its convenience and fast processing speed.

In 2022, a total of 3,542 questionnaires on customer satisfaction were sampled, and the customer satisfaction performance was excellent, with an overall evaluation score of 94.2, which was further improved compared with 2021.

In the second-level indicator satisfaction evaluation, the scores for pre-sales service satisfaction, product sales satisfaction, logistics satisfaction, after-sales service satisfaction, and customer manager satisfaction were 94.1, 94.3, 93.5, 94.2 and 94.9, respectively.

Promoting Win-win Development of the Industry

Under the guidance of the Standardisation Administration of the P.R.C., the Company has collaborated with co-construction subsidiaries to promote the construction of the national technical standard innovation base for leading industrial upgrading through standard innovations. As of 2022, it has formulated 2 international standards such as the *Code for Foam Glass Products for Building-related Thermal Insulation Materials*, 3 national standards including the *Evaluation on Service Quality of Cross-border E-commerce Platform*, 64 group standards like *General Rules on Quality Grading and Evaluation of Industrial Products*, and more than 5,800 corporate standards including the *Detailed Rules for Quality Evaluation of EPEC Products - Plate Welded Pressure Vessels*. The Company has continued to strengthen the deep integration of "production, education, research, and application", and worked with key domestic manufacturers to vigorously promote the localisation of major equipment and cooperate in 26 key localised projects, including oil and gas field exploration and development, LNG handling, storage, and transportation, special industrial pumps, national production control system, and other special equipment. They focused on inventing new technologies and optimising existing ones, and promoted domestic equipment manufacturing enterprises to transform scientific and technological achievements into industrial competitive advantages and to enhance the level of industrialisation.

The Company has been a member of the Alliance to End Plastic Wastes for three years. Throughout this period, the Company has actively fulfilled its obligations as a member and actively participated in relevant work. Additionally, the Company has taken an active role in building a global governance system under the mechanism of the World Business Council for Sustainable Development to demonstrate Chinese enterprises' actions and results in addressing climate change, and to promote best practices among Chinese enterprises.

Case

Actively Fulfilling the Obligations as a Member of the Alliance to End Plastic Wastes

Sinopec Corp. joined the Alliance to End Plastic Wastes (AEPW) in 2019, being the first mainland Chinese enterprise to join the Alliance. In 2022, nine new projects promoted by the Company in the field of publicity and education and the application of waste plastics were approved in principle by the Alliance. By cooperating with Tsinghua University and Tongji University, the Company released three research reports in plastic recycling, providing solutions to plastic pollution control from different perspectives. In addition to participating in the daily representative meetings of the Alliance and maintaining communication, the Company also appointed senior experts to serve as members of the Alliance's Advanced Recycling Theme Expert Group (TEG), to participate in the work and meetings of the AEPW NTG, to attend the discussions related to chemical recycling led by the Alliance, and to review the start-up incubator projects carried out by the Alliance in China.

Key Performance

Environmental Performance

GHGs emissions and management

Indicators	2020	2021	2022
GHGs emissions (million tonnes CO ₂ -equivalent) ^{Note1}	170.94	172.56	161.79
Direct GHGs emissions	128.58	148.38	137.72
Indirect GHGs emissions	42.36	24.18	24.07
Oil & gas exploration and production segment	24.42	22.47	20.36
Refining and chemicals segment	144.32	148.34	139.82
Marketing segment	2.20	1.75	1.61
GHGs emissions intensity ^{Note2}	81.22	62.96	48.76
CO ₂ capture (thousand tonnes)	1,290	1,520	1,534
Methane recovery (million cubic metres)	600	717	834

Indicators	2020	2021	2022
Methane emissions (million cubic metres)	283.56	299.90	253.79
Oil & gas exploration and production segment	245.98	269.88	222.32
Refining and chemicals segment	23.75	10.01	11.06
Marketing segment	13.83	20.01	20.41

Note 1: The Company conducts GHGs emission (direct and indirect) accounting and verification according to ISO14064-1:2006 standards, covering six gases including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydro fluoro carbons (HFCs), per fluorinated compounds (PFCs) and sulphur hexafluoride (SF₆).

Note 2: GHGs emissions intensity (tonnes CO₂-equivalent/RMB million)= Greenhouse gas emissions / revenue (RMB million)

Energy and resources^{Note1}

Indicators	2020	2021	2022
Consumption of crude oil (million tonnes)	1.07	1.07	1.06
Consumption of natural gas (billion cubic metres)	3.78	4.06	4.40
Consumption of purchased electricity (billion kWh)	30.83	33.80	33.88
Consumption of coal (million tonnes)	15.00	35.00	38.19
Fresh water withdrawal for industrial use (million cubic metres)	643.20	636.16	629.10
Fresh water withdrawal for industrial use intensity ^{Note2}	305.60	232.10	189.59

Note 1: The consumption of certain energies increased in 2022 due to the change in scope of statistics as the result of asset acquisition of the Company, the increase of the scale of production and operation of the Company, and the release of new production capacities.

Note 2: Fresh water withdrawal for industrial use intensity (cubic metre/RMB million)= Fresh water withdrawal for industrial use/ revenue (RMB million)

Emissions, effluents, and wastes^{Note1}

Indicators	2020	2021	2022
COD (tonnes)	5,743	5,185	4,755
Ammonia and nitrogen (tonnes)	142	107	75
Sulphur dioxide (tonnes)	5,922	5,117	4,910
Nitrogen oxides (tonnes)	21,762	20,774	19,247
Solid waste (thousand tonnes) ^{Note2}	1,710.8	1,931.6	2,036.9
Solid waste intensity ^{Note3}	0.81	0.70	0.61
Weight of disposed hazardous waste (thousand tonnes) ^{Note4}	731.1	461.0	515.0
Hazardous waste intensity ^{Note5}	0.35	0.17	0.16

Note 1: This report discloses the emissions of the Company's oilfield, refining and chemical, and professional companies that are included in the key management of emission permits. The emissions accounting is based on self-monitoring data and is ultimately subject to data published by local ecological and environmental authorities.

Note 2: The total amount of general industrial solid waste entrusted by the Company to a third party for disposal.

Note 3: Solid waste intensity(tonne/RMB million)=amount of solid waste/revenue(RMB million)

Note 4: The total amount of hazardous waste entrusted by the Company to third-party qualified institutions for disposal.

Note 5: Hazardous waste intensity (tonne/RMB million)= amount of hazardous waste/revenue (RMB million)

Social Performance

Employment and training

Indicators	2020	2021	2022
Total number of employees	384,065	385,751	374,791
Employees below 30 years of age	40,076	41,029	43,826
Employees between 31 and 50 years of age	254,948	243,706	224,068
Employees over 51 years of age	89,041	101,016	106,897
Male employees	257,053	262,108	258,762
Female employees	127,012	123,643	116,029
Percentage of female employees (%)	33.1	32.1	31.0
Percentage of female employees in management (%)	12.59	12.91	13.45
Percentage of ethnic minority employees(%)	3.8	4.0	4.2
Number of employees newly hired during reporting period	16,011	21,062	20,891
Number of employees turnover during reporting period	13,963	11,797	15,046
Turnover rate (%)	0.69	0.64	0.69
Turnover rate of male employees (%)	—	0.56	0.60
Turnover rate of female employees (%)	—	0.87	0.97
Turnover rate of employees below 30 years of age (%)	1.5	3.10	2.65
Turnover rate of employees between 31 and 50 years of age (%)	0.5	0.56	0.59
Turnover rate of employees over 51 years of age (%)	0.3	0.16	0.30
Turnover rate of senior management staff (%)	—	—	0.60
Turnover rate of mid-level management staff (%)	—	—	0.23
Turnover rate of grassroots employees (%)	—	—	0.71
Collective contract coverage (%)	100	100	100
Social insurance coverage (%)	100	100	100
Enterprise annuity coverage (%)	80.59	81.48	80
Percentage of employees with labour union membership (%)	100	100	100
Vocational training coverage (%)	85.7	87.3	99.3
Total amount of vocational training (hours)	12,853,165	14,637,601	14,815,488
Average training hours of employees (hours)	33.47	35.71	39.53
Average training hours of male employees (hours)	52.61	55.28	58.31
Average training hours of female employees (hours)	53.53	55.64	58.68
Average training hours of senior management staff (hours)	52.21	59.15	61.35
Average training hours of mid-level management staff (hours)	48.65	55.37	58.56
Average training hours of grassroots employees (hours)	45.62	52.81	54.21
Vocational training participation (person-time)	1,536,501	1,725,129	1,442,848
Online training participation (person-time)	1,259,800	6,152,170	6,375,520
Total amount of online training (hours)	27,721,300	51,432,900	60,847,600
Training participation rate of male employees (%)	36.85	39.26	42.74
Training participation rate of female employees (%)	35.62	38.27	41.63
Training participation rate of senior management staff (%)	95.6	95.77	96.28
Training participation rate of mid-level management staff (%)	92.5	93.63	94.75
Training participation rate of grassroots employees (%)	85.6	87.38	89.63

Workplace health and safety

Indicators	2020	2021	2022
Employee occupational health examination coverage (%)	99.9	99.9	99.9
Health examination and health record coverage (%)	99.9	99.9	99.9
Number of newly diagnosed cases of occupational diseases	12	12	10
Number of accidents reported	3	2	1
Number of deaths due to production safety accidents	3	2	2
Total recorded accident (Incident) rate (per 200,000 working-hours)	0.1062	0.1147	0.07046
Fatal accident rate (per 200,000 working-hours)	0.00072	0.00071	0.00045
Number of production safety emergency drills (10,000)	58	58	59
Number of participants in production safety emergency drills (10,000 person-times)	329	331	332

Supply Chain

Indicators	2020	2021	2022
Number of suppliers passed qualification assessment	21,446	25,072	26,768
Number of suppliers from mainland China	—	23,294	24,917
Number of oversea suppliers	—	1,778	1,851
Percentage of suppliers qualified by QHSE management system (%)	31.3	30.6	29.8
Number of suppliers qualified by the quality management system (ISO9000)	10,327	11,952	11,634
Percentage of suppliers qualified by the quality management system (ISO9000) (%)	48.2	47.7	43.5
Number of suppliers qualified by the environmental management system (ISO14000)	7,412	8,511	9,271
Percentage of suppliers qualified by the environmental management system (ISO14000) (%)	34.6	34.0	34.6
Number of suppliers qualified by the occupational health and safety management system (ISO18000)	7,044	7,999	8,273
Percentage of suppliers qualified by the occupational health and safety management system (ISO18000) (%)	32.8	31.9	30.9
Percentage of procurement from the top 5 suppliers	5.7	5.1	5.8
Percentage of procurement through tender (%)	85.2	86.0	86.0
Percentage of procurement by open tender (%)	97.1	96.7	96.9

Independent Assurance Report

English Translation for Reference Only

Independent Limited Assurance Report

毕马威华振通字第 2300049 号

To the Board of Directors of China Petroleum and Chemical Corporation :

We were engaged by the Board of Directors of China Petroleum and Chemical Corporation (the "Company") to provide limited assurance on selected 2022 key data in the Company's 2022 Sustainability Report for the year ended 31 December 2022.

I. Key Data

In this report, limited assurance procedures were performed on the following selected key data of the Company's 2022 Sustainability Report:

- GHGs emission (million tonnes CO₂-equivalent)
- Direct GHGs emission (million tonnes CO₂-equivalent)
- Indirect GHGs emission (million tonnes CO₂-equivalent)
- CO₂ capture (thousand tonnes)
- Consumption of purchased electricity (billion kWh)
- Weight of disposed hazardous waste (thousand tonnes)
- Number of accidents reported
- Number of deaths due to production safety accidents
- Total recorded accident (Incident) rate (per 200,000 working-hours)
- Fatal accident rate (per 200,000 working-hours)
- Total number of employees
- Employee turnover rate (%)
- Percentage of female employees (%)
- Percentage of female employees in management (%)
- Percentage of minority employees (%)
- Number of patients cured under the Lifeline Express Programme
- Number of patents applied for this year
- Number of authorised patents this year

Independent Limited Assurance (Continue)

毕马威华振通字第 2300049 号

Within the scope of our work, we only performed procedures in selected 2022 key data in the Head Office, Sinopec Beijing Oil Products Company and Sinopec Zhenhai Refining & Chemical Branch we have not conducted work in other subsidiaries. We have not performed any procedures with respect to 2021 and other earlier periods or any other information included in the 2022 Sustainability Report.

II. Responsibilities of the Board of Directors

The Company's Board of Directors is solely responsible for the preparation of the key data of the 2022 Sustainability Report in accordance with basis of reporting of the key data ("basis of reporting") after this assurance report.

The Board of Directors is also responsible for designing, implementing and maintaining the internal controls that enable the preparation and presentation of 2022 Sustainability report that is free from material misstatement, whether due to fraud or error.

III. Responsibilities of KPMG

Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed. We conducted our work in accordance with the International Standard on Assurance Engagements 3000: Assurance Engagements other than Audits or Reviews of Historical Financial Information.

We have complied with our independence requirement and other relevant ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, and we have complied with the applicable requirements of the International Standard on Quality Control 1 with respect to maintaining a comprehensive quality control system.

Our independent limited assurance report has been prepared solely to the Company in accordance with the terms of our engagement. Our work has been undertaken so that we might report to the Board of Directors those matters we have been engaged to report in this independent limited assurance report and for no other purpose. We do not accept or assume responsibility to any party other than the Company for our work, for this independent limited assurance report, or for the conclusion we have reached.

Independent Limited Assurance (Continue)

毕马威华振通字第 2300049 号

IV. Summary of work performed

A limited assurance engagement on the 2022 Sustainability Report consists of making inquiries, primarily of persons responsible for the preparation of information presented in the Sustainability Report, and applying analytical and other procedures, as appropriate. Our procedures include:

- Assess the risk of material misstatement of selected 2022 key data relating to Sustainability Report, whether through fraud or error;
- Conduct interviews with relevant staff at the Company who are responsible for providing the information in the Sustainability Report;
- Performing analytical review procedures on the selected 2022 key data relating to Sustainability Report;
- Sampling of selected key data relating to Sustainability Report;
- Recalculating of 2022 selected key data relating to Sustainability Report;
- Reading the information presented in the Sustainability Report to determine whether it is in line with our overall knowledge of, and experience with, the sustainability performance of the Company; and
- Perform other procedures deemed necessary.

The extent of the evidence gathering procedures performed in a limited assurance engagement is less than that for a reasonable assurance engagement, and therefore, a lower level of assurance is provided. In addition, our work was not undertaken for the purpose of expressing an opinion on the effectiveness of the Company's systems and procedures.

V. Inherent Limitation

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities.

VI. Conclusion

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the selected 2022 key data contained in the Company's Sustainability Report for the year ended 31 December 2022 is not prepared, in all material respects, in accordance with the basis of reporting.

KPMG Huazhen LLP

Beijing
March 24, 2023**Compilation and Reporting Basis of Key Data****GHGs emission (million tonnes CO₂-equivalent):**

GHGs emission disclosed herein refers to the sum of direct GHGs emission and indirect GHGs emission produced by the production operation subsidiaries of China Petroleum & Chemical Corporation.

Direct GHGs emission (million tonnes CO₂-equivalent):

Direct GHGs emission disclosed herein refers to direct GHGs emission from fixed emission source, mobile emission source, process emission source and escape emission source produced by the production operation subsidiaries of China Petroleum & Chemical Corporation.

Indirect GHGs emission (million tonnes CO₂-equivalent):

Indirect GHGs emission disclosed herein refers to indirect greenhouse gas emissions resulting from the consumption of purchased electricity, purchased heat (steam), etc by the production operation subsidiaries of China Petroleum & Chemical Corporation.

CO₂ capture (thousand tonnes):

CO₂ capture disclosed herein refers to the total amount of carbon dioxide captured by refinery enterprises of China Petroleum & Chemical Corporation in carbon dioxide recovery work.

Consumption of purchased electricity (billion kWh):

Consumption of purchased electricity disclosed herein refers to the difference between total consumption of electricity of industrial subsidiaries of China Petroleum & Chemical Corporation and their self-generated electricity.

Weight of disposed hazardous waste (thousand tonnes):

Weight of disposed hazardous waste disclosed herein refers to the total weight of hazardous waste entrusted for process and disposal, which is collected in the Environmental Protection Information System of China Petrochemical Corporation.

Number of accidents reported:

Number of accidents reported disclosed herein refers to the number of General Grade A and higher accidents that occurred of China Petroleum & Chemical Corporation. A General Grade A accident means an accident in which some person died.

Number of deaths due to production safety accidents:

Number of deaths due to production safety accidents disclosed herein refers to the number of permanent employees that are eventually confirmed dead in General Grade A accidents of China Petroleum & Chemical Corporation.

Total recorded accident (incident) rate (per 200,000 working-hours):

Total recorded accident (incident) rate (per 200,000 working-hours) disclosed herein refers to the number of accidents (incident) that occurred of China Petroleum & Chemical Corporation, per 200,000 working-hours.

Fatal accident rate (per 200,000 working-hours):

Fatal accident rate (per 200,000 working-hours) disclosed herein refers to the number of fatal accidents that occurred in General Grade A accidents of China Petroleum & Chemical Corporation, per 200,000 working-hours.

Total number of employees:

Total number of employees disclosed herein refers to the total number of employees who have signed full-time employment contracts with China Petroleum & Chemical Corporation, excluding dispatched employees.

Employee turnover rate (%):

Employee turnover rate disclosed herein refers to the proportion of the number of employees whose labour contracts were terminated by China Petroleum & Chemical Corporation for personal reasons (excluding ordinary employees such as gas station operators).

Percentage of female employees (%):

Percentage of female employees disclosed herein refers to the proportion of the number of female employees who have signed full-time employment contracts with China Petroleum & Chemical Corporation, excluding dispatched employees, to total number of the employees.

Percentage of female employees in operational management:

Percentage of female employees in operational management disclosed herein refers to the proportion of the number of female employees in the operational management function who have signed full-time employment contracts with China Petroleum & Chemical Corporation, excluding dispatched employees, to total number of the employees in the operational management function who have signed full-time employment contracts.

Percentage of minority employees (%):

Percentage of minority employees disclosed herein refers to the proportion of the number of ethnic minority employees who have signed full-time employment contracts with China Petroleum & Chemical Corporation, excluding dispatched employees, to total number of the employees who have signed full-time employment contracts.

Number of patients cured under the Lifeline Express Programme:

Number of patients cured under the Lifeline Express Programme disclosed herein refers to the number of patients who have undergone rehabilitation surgery in the Lifeline Express Programme, which was launched by China Healthy Express Foundation in reporting year and supported by China Petroleum & Chemical Corporation.

Number of patents applied for this year:

Number of patents applied for this year disclosed herein refers to the number of patent application documents submitted by China Petroleum & Chemical Corporation to the China Intellectual Property Office and overseas national or regional intellectual property institutions in this year.

Number of authorised patents this year:

Number of authorised patents in this year disclosed herein refers to the number of patent authorisation certificates issued by China Intellectual Property Office and overseas national or regional intellectual property institutions obtained by China Petroleum & Chemical Corporation in this year.

Report Content Indexes

HKEX ESG Reporting Guide Content Index

Subject Areas, Aspects, General Disclosures and KPIs		Pages
A. Environmental		
Aspect A1: Emissions	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	31-32,35-36,41,51-57, 59-61
	KPI A1.1 The types of emissions and respective emissions data.	103-104
	KPI A1.2 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g., per unit of production volume, per facility).	103
	KPI A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g., per unit of production volume, per facility).	60,104
	KPI A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g., per unit of production volume, per facility).	60,104
	KPI A1.5 Description of emissions target(s) set and steps taken to achieve them.	35-48,51
	KPI A1.6 Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	59-60
Aspect A2: Use of Resources	General Disclosure: Policies on the efficient use of resources, including energy, water and other raw materials.	38-39,43-48, 54-57,59-60
	KPI A2.1 Direct and/or indirect energy consumption by type (e.g., electricity, gas or oil) in total (kWh in '000s) and intensity (e.g., per unit of production volume, per facility).	104
	KPI A2.2 Water consumption in total and intensity (e.g., per unit of production volume, per facility).	55,104
	KPI A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	38-40,43-48
	KPI A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	54-56
Aspect A3: The Environment and Natural Resources	KPI A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	N/A ^{Note1}
	General Disclosure: Policies on minimising the issuer's significant impacts on the environment and natural resources.	35,51-52
	KPI A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	33-48,51-53
Aspect A4: Climate Change	General Disclosure: Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	31-34
	KPI A4.1 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	32-48

Note 1: The indicator is not applicable since the main products sold by the Company are energy and chemical products.

Subject Areas, Aspects, General Disclosures and KPIs		Pages
B. Social		
Aspect B1: Employment	Employment and Labour Practices	
	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equity opportunity, diversity, anti-discrimination, and other benefits and welfare.	79-80,82
	KPI B1.1 Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region.	105
	KPI B1.2 Employee turnover rate by gender, age group and geographical region.	105
	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	67-69,71-73
	KPI B2.1 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	106
	KPI B2.2 Lost days due to work injury.	N/A ^{Note2}
Aspect B2: Health and Safety	KPI B2.3 Description of occupational health and safety measures adopted, and how they are implemented and monitored.	67-73
	General Disclosure: Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	83-86
	KPI B3.1 The percentage of employees trained by gender and employee category (e.g., senior management, middle management).	105
Aspect B3: Development and Training	KPI B3.2 The average training hours completed per employee by gender and employee category.	105
	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	79
	KPI B4.1 Description of measures to review employment practices to avoid child and forced labour.	79
Aspect B4: Labour Standards	KPI B4.2 Description of steps taken to eliminate such practices when discovered.	79
	Note 2: The indicator is not applicable, because the Company has calculated and disclosed the total recorded accident (incident) rate per 200,000 working-hours and the fatal accident rate per 200,000 working-hours in accordance with the OSHA standards instead.	

Subject Areas, Aspects, General Disclosures and KPIs		Pages
B. Social		
Operating Practices		
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	KPI B5.1 Number of suppliers by geographical region.	106
	KPI B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	106
	KPI B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	93-95
	KPI B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	93-95
Aspect B6: Product Responsibility	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	98-101
	KPI B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	98
	KPI B6.2 Number of products and service related complaints received and how they are dealt with.	101
	KPI B6.3 Description of practices relating to observing and protecting intellectual property rights.	23
	KPI B6.4 Description of quality assurance process and recall procedures.	99-100
Aspect B7: Anti-corruption	KPI B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	75
	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	17-22
	KPI B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	21-22
	KPI B7.2 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	17-23
	KPI B7.3 Description of anti-corruption training provided to directors and staff.	21
Community		
Aspect B8: Community Investment	General Disclosure: Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	89-92, 95-97
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	KPI B8.2 Resources contributed (e.g., money or time) to the focus area.	89-92, 95-97

UNGC Ten Principles Index

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Human Rights	Businesses should support and respect the protection of internationally proclaimed human rights; and Make sure that they are not complicit in human rights abuses.	79-80 79-80
Labour	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; The elimination of all forms of forced and compulsory labour;	79-80 79
Environment	The effective abolition of child labour; and The elimination of discrimination in respect of employment and occupation.	79-80 31-48,51-53
Anti-Corruption	Businesses should support a precautionary approach to environmental challenges; Undertake initiatives to promote greater environmental responsibility; and Encourage the development and diffusion of environmentally friendly technologies.	37-48,54-64 33-48,54-61 19-23

TCFD Index

TCFD recommended disclosures	Pages
Governance: Disclose the organisation's governance around climate-related issues and opportunities. a) Describe the board's oversight of climate-related risks and opportunities.	3,32
b) Describe the management's role in assessing and managing climate-related risks and opportunities.	3,32
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's business, strategy and financial planning where such information is material. a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	33-36
b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning.	33-36
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Risk Management: Disclose how the organisation identifies, assesses and manages climate-related risks. a) Describe the organisation's processes for identifying and assessing climate-related risks.	32-34
b) Describe the organisation's processes for managing climate-related risks.	32-36
c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.	32-34
Metrics and Targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material. a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	35-38,103
b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions, and the related risks.	33-37,103
c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	35-48

UNGC Advanced Level Criteria Index

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	Criterion 6: Effective management systems to integrate the human rights principle	9,79-80
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	Criterion 8: Key outcomes of the human rights integration	79-86
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Feedback

Dear Readers,

Thank you for reading this report. Your opinions and suggestions are important to us and can help us improve the preparation of future reports. Please help us by completing the following Feedback Form and sending it to the following address:

Office of the Board

China Petroleum & Chemical Corporation
No.22 Chaoyangmen North Street, Chaoyang District, Beijing 100728, PRC

Your Information

Name: _____

Organisation: _____ Title: _____

Tel: _____ Fax: _____ E-mail: _____

Multiple choice questions (please place a check mark √ in the answer box)

Content	Very good	Good	Fair	Poor	Very poor
This report provides a complete and accurate description of the significant economic, social and environmental impacts of Sinopec Corp.	<input type="checkbox"/>				
This report responds to and discloses information about the concerns of stakeholders.	<input type="checkbox"/>				
The information, indicators and data disclosed in this report are clear, accurate and complete.	<input type="checkbox"/>				
This report is easy to read, i.e., its structure, content, wording and layout are well designed.	<input type="checkbox"/>				

Open-ended questions

1. What do you like the most of this report?

2. What other information do you think that should be included in this report?

3. What are your suggestions that how we can better prepare our sustainable development progress report in the future?



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