



SINOPEC

Cleaner Energy  
Better Life

# 2021

## Corporate Social Responsibility Report

China Petrochemical Corporation



# About the report

## Organizational scope

This report covers the economic, social and environmental performance of China Petrochemical Corporation ("Sinopec", "the company" or "we") and its subsidiaries.

## Time range

From January 1, 2021 to December 31, 2021 (including some content that is beyond the range).

## Release frequency

China Petrochemical Corporation's Corporate Social Responsibility (CSR) Report is an annual report. This is the 15th CSR report released by the company.

## References

United Nations Sustainable Development Goals (SDGs)

Global Reporting Initiative (GRI) Sustainability Reporting Standards (GRI Standards)

State-owned Assets Supervision and Administration Commission of the State Council "Guiding Opinions on Better Performance of Corporate Social Responsibility by State-owned Enterprises"

Chinese Academy of Social Sciences "China Corporate Social Responsibility Reporting Guidelines 4.0 Petrochemical Industry (CASS-CSR4.0)"

China Business Council for Sustainable Development "Recommended Standards and Implementation Examples of Corporate Social Responsibility in China"

## Info source

The information and data used in this report comes from the company's official documents and statistical reports. The financial data in the report is in RMB unless otherwise stated.

## Read more

Please visit [www.sinoppecgroup.com](http://www.sinoppecgroup.com) for more CSR information of the company or download the electronic version of this report.

## Report rating

Sinopec's 2021 CSR Report was rated as a five-star-plus report, the highest level, by the China Corporate Social Responsibility Report Rating Expert Committee.

## Sinopec's CSR reports (2007–2021)



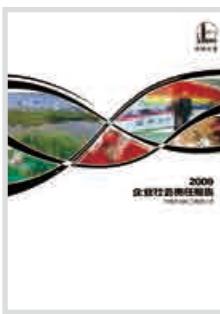
2021



2007



2008



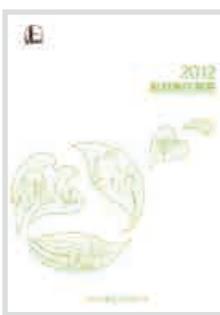
2009



2010



2011



2012



2013



2014



2015



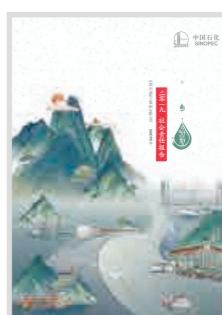
2016



2017



2018



2019



2020

# CONTENTS

About the report	02	<b>Cleaner energy serves people's demand for a better life</b>	24	<b>Better life and improvement of people's wellbeing</b>	74	Future prospects	106
Message from the Chairman	06					Appendix	108
About us	09	Energy transformation to ensure energy supply	28	Serving the overall development through tax payment	76	Key performances	108
		Promoting modern chemical industry with premium materials	32	Protecting lives and health through pandemic response	76	Index	110
		Nurturing momentum for innovation-driven development	34	Improving people's wellbeing through public welfare and charity	78	Report rating	112
		Production and operation with safety and stability	37			Feedback	113
<b>Highlight 1</b>	<b>12</b>	<b>Feature: Develop the layout of the hydrogen energy industry chain to establish a clean and low-carbon energy system</b>	<b>40</b>	<b>Feature: "The Gas Station That Cares - A Better Road Home" through 10-year dedication</b>	<b>84</b>		
		Empowering the green Winter Olympics to achieve the ice and snow dreams					
<b>Highlight 2</b>	<b>18</b>	<b>Environmental protection efforts promote green development</b>	<b>42</b>	<b>Opening-up to build a better world together</b>	<b>86</b>		
		Continuing rural revitalization and supporting common prosperity		Working on production capacity to promote economic development	88		
		Managing the environment to consolidate the foundation for environmental protection	44	Safe and environment-friendly products to protect the earth	92		
		Pursuing clean production to build green enterprises	46	Local employment enhances cultural fusion	94		
		Saving energy and reducing carbon emissions to tackle climate change	51	Community co-construction builds a bridge of friendship	95		
		Protecting the ecology to build a better world	54				
		<b>Feature: First million-tonne CCUS project helps realize carbon peak and carbon neutrality goals</b>	<b>56</b>	<b>Feature: Join hands to build a better Hong Kong based on the Belt and Road Initiative</b>	<b>96</b>		
<b>Creditable cooperation with partners for higher value</b>	<b>58</b>	<b>Effective management consolidates the foundation of sustainable development</b>	<b>98</b>				
		Delivering employee value through talent development	60	Responsible organizations for improving governance system	101		
		Improving the customer experience through brand leadership	64	Responsibility integration for deepening responsibility fulfillment	102		
		Jointly building an industrial chain to boost industrial development	67	Responsibility communication for shaping the brand image	103		
		<b>Feature: Working for comprehensive energy service station to meet customers' diverse needs</b>	<b>72</b>	<b>Feature: Strengthening ESG management and information disclosure to highlight the image of Sinopec as a responsible enterprise</b>	<b>104</b>		

# Message from the Chairman



The year 2021 marked the 100th anniversary of the founding of the Communist Party of China, the historical meeting point of the "two centenary goals", and the first year of the "14th Five-Year Plan". During the year, Sinopec followed the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era; and was enriched by the spirit of founding the Party; fully, accurately and comprehensively implemented the new development concept; served in the construction of a new development pattern; implemented the world's leading development strategy; carried out the three core responsibilities; focused on driving high-quality development; deepened the comprehensive and strict governance of the Party; overcame many difficulties; fought a series of tough battles; and handed in an impressive report card in the iconic year.

**We have implemented the new energy security strategy, boosted the energy revolution, and secured our energy exploration core technologies.** We have also implemented the "Seven-Year Action Plan" for oil and gas exploration and development; taken the initiative to shoulder responsibilities, act and achieve "breakthroughs in exploration, steady growth in crude oil, and leap development in natural gas". In 2021, Sinopec's newly-added proven oil reserves reached 167 million tonnes; natural gas proven reserves hit 268.1 billion cubic meters; domestic crude oil production was 35.15 million tonnes; and domestic natural gas production was 33.9 billion cubic meters. Also, as Sinopec aims to be "China's No. 1 Hydrogen Energy Company", it is steadily developing clean energy such as shale gas, geothermal, photovoltaic and wind energy, and helping build a clean, low-carbon, safe and efficient multi-energy supply system. Its annual hydrogen production capacity now exceeds 3.5 million tonnes, accounting for about 14% of the national total. It has built 76 hydrogen refueling stations (including oil-hydrogen hybrid stations) in total. Its Fuling-based shale gas field has a cumulative gas production of 45.4 billion cubic meters; and its geothermal heating area covers more than 80 million square meters. Separately, it has set up a total of 1,351 distributed photovoltaic power generation stations. Sinopec has also participated in international energy cooperation, strengthened international trade, allocated resources on a global basis, and improved its adjustment and supply ability to secure the bottom line during critical periods.

**We have accelerated the transformation and upgrading; developed high-end new materials, and led the high-quality development of China's petrochemical industry.** We have advanced to resolve problems such as high-end products shortages and low-end products excess, and enhanced the resilience and competitiveness of the industrial chain. We are optimizing the "refining" process and strengthening the "chemicalization" process; leading the process of "from oil products to chemical products"; and building large-scale, intelligent and integrated world-class refining and chemical bases. In 2021, the first phase of the Zhenhai base in Zhejiang was completed, and the Fujian Gulei refining and chemical integrated project was put into operation. We are making efforts to create high-end new materials; and accelerate the development of high-end chemical products such as medical and health raw materials, degradable plastics, and green and environmentally friendly automotive lightweight materials. In 2021, our independently developed special material for antibacterial meltblown fabric was used in the production of masks, and our independently developed and produced carbon fiber was used in the "Flying" torch of the Winter Olympics. In line with the general trend of transportation energy transformation, we are accelerating the transformation to a comprehensive energy service provider of "oil, gas and hydrogen power services" to meet the diverse needs of consumers. Our annual output of synthetic resin was 19.1 million tonnes, and of synthetic fibers and polymers was 4.64 million tonnes in 2021.

**We are committed to independent innovation, strengthening key and core technology research, and aiming to become a national strategic scientific and technological force.** With our focus on the bottlenecks in the oil, natural gas and basic raw material fields, we coordinate the advancement of research in frontier sectors and industrialization technology research; and drive the research and development of high-end materials and special equipment that are needed by the country; and aim to achieve independent and controllable development of key core technologies. We also use of the traditional "Ten Dragons" problem-solving mechanism; implement the "big corps" combat mode; boost the initiative and competitive research mechanism; and transform scientific and technological achievements into the most distinct competitive advantage. We optimize the ecology of scientific and technological innovation; and accelerate the cultivation of strategic scientists, leading scientific and technological talents, first-class innovation teams and outstanding young scientific and technological talents. In 2021, seven projects of Sinopec won the National Science and Technology Awards. Separately, guided by high-quality development, focusing on industrial upgrading and quality and efficiency improvement, Sinopec drives industrial intelligence upgrading and digital transformation to create advantages in industrial competition. By the end of 2021, the construction of Sinopec's smart oil fields, smart factories, smart gas stations, smart research institutes, and smart operation centers had taken shape.

**We practice the concept of green development to build a green enterprise and serve the realization of carbon peaking and carbon neutrality goals.** We are boosting the cleanliness of fossil energy; the scale of clean energy and the low-carbon production process; moving towards net zero emissions; and helping achieve carbon peaking and carbon neutrality goals. We are promoting the "Green Enterprise Action Plan", and 104 of our enterprises have qualified for the green enterprise standard. We are continuing the "Energy Efficiency Improvement" plan and achieved energy saving of 967,000 tonnes of standard coal, equivalent to reduction of 2.38 million tonnes of carbon dioxide emissions in 2021. We have accelerated research on green and low-carbon technologies, and have continuously advanced the carbon dioxide tail gas recovery and utilization; carbon dioxide flooding mine experiments and methane emission recovery, to reduce greenhouse gas emissions. To date, we have completed China's first million-tonne CCUS (carbon dioxide capture, utilization and storage) project -- Qilu Petrochemical - Shengli Oilfield CCUS Project, which can reduce carbon dioxide emissions by 1 million tonnes per year after it is put into operation. We have carried out carbon footprint research; conducted carbon inventory for 11 consecutive years; and continuously participated in carbon trading. In 2021, our carbon trading volume reached 9.7 million tonnes, with a transaction value of 414 million yuan.

**We share development achievements, and focus on rural revitalization and public welfare and philanthropy to serve the people for a better life.** We pay close attention to pandemic prevention and control measures; make every effort to ensure the supply of pandemic prevention materials; support local pandemic prevention and control; and ensure the safety of employees and people at home and abroad. With our comprehensive support, the 2022 Beijing Winter Olympics and the Winter Paralympics were a success in terms of energy supply, material security, volunteer services, and the promotion of Winter Olympics culture. Sinopec took the lead in releasing its "14th Five-Year Plan to Help Rural Revitalization", focusing on the "three upgrades" of industry, education and consumption, implementing the "one county, one chain" characteristic assistance, and helping sustainable development of 8 counties and 616 villages. A total of 192 million yuan was invested in rural assistance during the year; 940 full-time assistance personnel were dispatched to villages through the Sinopec Group; and 1.04 billion yuan in rural consumption assistance was provided. For 18 consecutive years, the "Sinopec Brightness" health express project has been implemented; and more than 50,000 poverty-stricken cataract patients have been treated for free. For 10 consecutive years, the "Love Station" public welfare project has served more than 4.4 million "homebound motorcycle riders" and 55 million homebound people during the Spring Festival holidays. Sinopec also set up 2,178 "drivers' homes" and 3,520 "love stations" to provide services for drivers and sanitation workers.

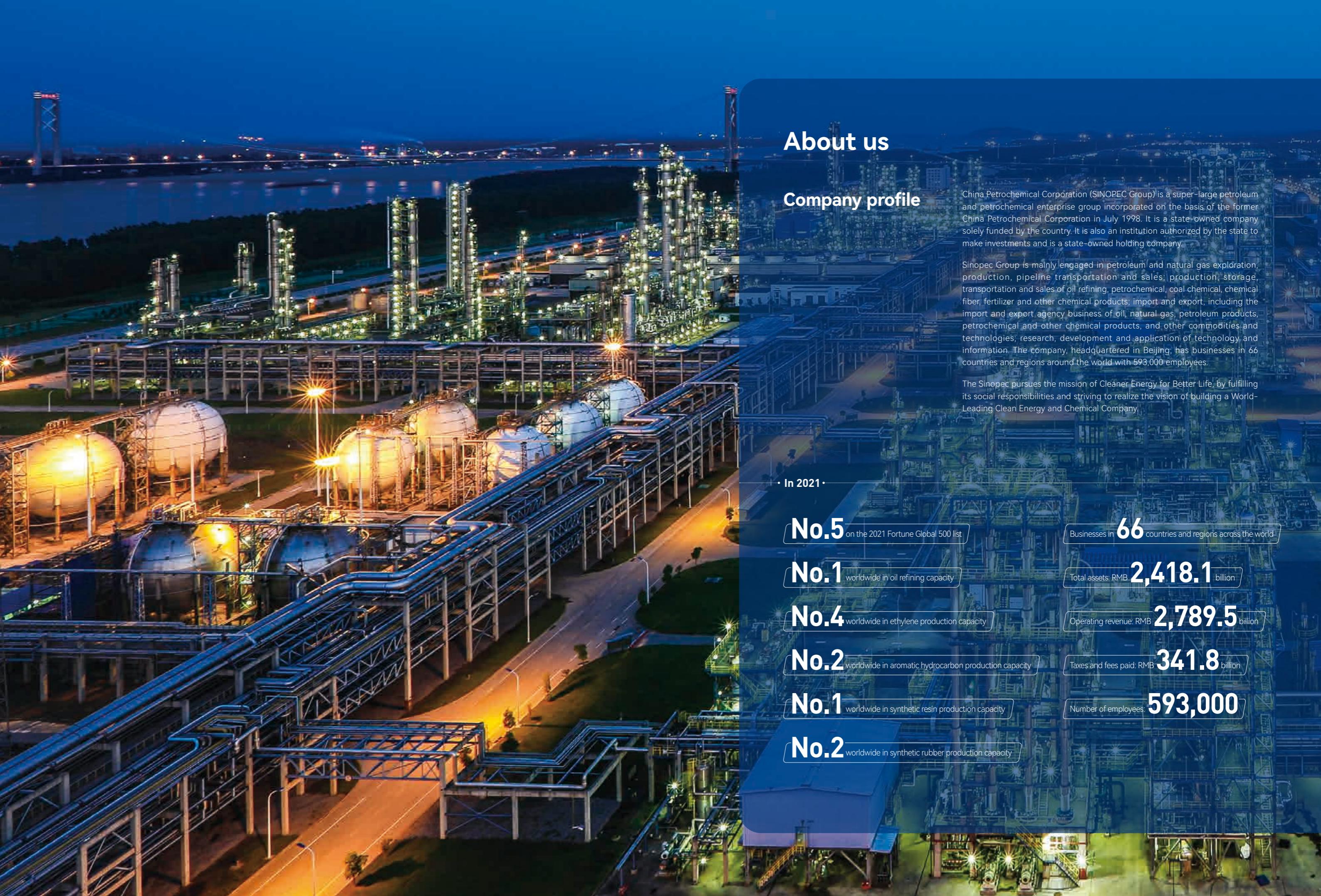
**We participate in the Belt and Road Initiative to fulfill the responsibility of a global corporate citizen and jointly build a better world.** In line with economic globalization and China's opening-up to the world, we have accelerated the pace of "going global"; have served the Belt and Road Initiative; and give full play to our competitiveness in oil and gas exploration and development, petroleum and petrochemical engineering technical services, oil and chemicals, equipment and materials trade, and storage investment and other fields; carry out mutually beneficial cooperation with many countries and regions; and serve the sustainable development of the global economy and society. We abide by international laws and regulations; pay taxes according to law and employ local labor; support the transformation and upgrading of local industries; implement green production and operation; respond to climate change; respect local traditions and culture; participate in community development; implement public welfare and philanthropic activities; improve livelihoods and well-being; build bridges of friendship and work together to build a community with a shared future.

We are also embarking on a new journey and working to write a new chapter in our story. The year 2022 is an important year to enter a new journey towards building a modern socialist country in an all-round way; and to march towards the second centenary goal. We will unite around the CPC Central Committee with Comrade Xi Jinping at its core, stick to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, bear in mind the "most important issue of our country" and our "internal and international imperatives", and unite as one to forge ahead. We will promote high-quality development in an all-round way; accelerate the creation of a Sinopec with strong strategic support, strong livelihood security, and strong spiritual appeal; and make contributions and gain achievements for the Party and the people in the new era and the new journey.

**Ma Yongsheng**

Chairman

China Petrochemical Corporation



## About us

### Company profile

China Petrochemical Corporation (SINOPEC Group) is a super-large petroleum and petrochemical enterprise group incorporated on the basis of the former China Petrochemical Corporation in July 1998. It is a state-owned company solely funded by the country. It is also an institution authorized by the state to make investments and is a state-owned holding company.

Sinopec Group is mainly engaged in petroleum and natural gas exploration, production, pipeline transportation and sales; production, storage, transportation and sales of oil refining, petrochemical, coal chemical, chemical fiber, fertilizer and other chemical products; import and export, including the import and export agency business of oil, natural gas, petroleum products, petrochemical and other chemical products, and other commodities and technologies; research, development and application of technology and information. The company, headquartered in Beijing, has businesses in 66 countries and regions around the world with 593,000 employees.

The Sinopec pursues the mission of Cleaner Energy for Better Life, by fulfilling its social responsibilities and striving to realize the vision of building a World-Leading Clean Energy and Chemical Company.

• In 2021 •

**No.5** on the 2021 Fortune Global 500 list

**No.1** worldwide in oil refining capacity

**No.4** worldwide in ethylene production capacity

**No.2** worldwide in aromatic hydrocarbon production capacity

**No.1** worldwide in synthetic resin production capacity

**No.2** worldwide in synthetic rubber production capacity

Businesses in **66** countries and regions across the world

Total assets: RMB **2,418.1** billion

Operating revenue: RMB **2,789.5** billion

Taxes and fees paid: RMB **341.8** billion

Number of employees: **593,000**

## Corporate governance

### Governing the enterprise according to law

#### Improve the top-level design of corporate governance according to law

- Formulate and implement the "14th Five-Year" rule of law development plan and the "8th Five-Year" law popularization plan; deepen the deployment of the construction of state-owned enterprises under the rule of law; and clearly "take system construction as the basis, risk control as the guide, internal control as the platform, compliance management as the leverage, and legal support as the guarantee" to create a "five-in-one" legal work pattern.

#### Fully deploy the construction of the compliance management system

- Summarize the pilot experience; comprehensively drive the construction of the compliance management system; and make it clear that a compliance management system with comprehensive coverage and effective operation will be built by the end of 2022.
- The 2021 version of the "Sinopec Integrity and Compliance Management Manual" was released, and 8 sets of compliance management directives and specifications were developed. The company's leadership team set an example and took the lead in demonstrating compliance management commitments. More than 420,000 cadres and employees completed compliance management training and signed compliance commitments.

#### Continuously deepen the basic management of legal affairs

- Strengthen the self-discipline management of enterprise credit; and establish a panoramic business family map, a domestic and overseas trademark registration ledger, a legal personnel database, a list of laws and regulations involved in the production and operation of enterprises, and an operating administrative license ledger.
- Carry out legal compliance demonstration and legal review of contracts for major projects; build a Sinopec law sharing platform; complete the development of an electronic contract signing platform; and boost the online launch of 29 contract business scenarios.

#### Effectively prevent and control legal compliance risks

- Drive the resolution of major legal disputes; strengthen hierarchical and classified management, publicized supervision and transaction; and clarify disposal goals, work plans and persons in charge.
- Use legal means to strengthen the collection of accounts receivable and severely crack down on infringements; strengthen the prevention and control of legal risks in key areas; carry out inspections on foreign-related legal compliance risks; and have no major legal compliance risk events occurred throughout the year.

#### Deepen the construction of the rule of law culture

- Adhere to the annual special study on the rule of law; set up legal compliance courses; organize National Constitution Day and Constitution Publicity Week activities; hold monthly forums on law popularization; compile legal knowledge readings; and relying on the "Micro-screen book on newspapers, magazines, platforms and websites", take multiple measures and comprehensively promote the law-abiding of employees on the post.

## Board of directors and special committees

China Petrochemical Corporation established a normative board of directors in April 2012. As the company's decision-making body, the board of directors reports to the State-owned Assets Supervision and Administration Commission (SASAC), accepts the guidance and supervision of the SASAC, and performs its duties in accordance with legal procedures and the company's articles of association for the purpose of safeguarding the interests of investors and realizing the value maintenance and appreciation of state-owned assets.

The board of directors consists of 9 directors, namely a chairman, a general manager, a deputy secretary of the Party group, 5 external directors and an employee director. The board of directors has set up five special committees, namely the Strategy and Investment Committee, the Nomination Committee, the Remuneration and Appraisal Committee, the Audit and Risk Committee, and the Corporate Social Responsibility Committee, to provide consultation and suggestions for its decision-making.

## Risk prevention and control

### Internal control

- Develop the "Detailed Rules for Sinopec Capital's Internal Control Supervision and Management (Trial)" and "Guiding Opinions on the Division of Powers between the Representative and the General Manager in a Sub-company"; and revise the 2022 Internal Control Manual to stress the risk- and problem-oriented control.
- Improve the implementation effectiveness of the continuous internal control system; clarify specific measures and implement them well; organize and carry out internal control inspections and investigations; establish the rectification log for problems found and arrange dedicated personnel to supervise and follow up the rectification, and implement output management.
- Organize and carry out training courses on risk control and internal control, publicity and implementation of internal control manuals, etc., to improve the awareness and ability of management on risk control and internal control.

### Risk management

- Revise the "Comprehensive Risk Management Measures", improve the risk management system; and ensure that there are rules and laws to abide by for risk prevention and control.
- Focus on the prevention and resolution of major risks; clarify management responsibilities; formulate risk prevention and control goals and measures; and boost the prevention and control of major risks.
- Carry out research on the major business risk management indicator system and risk identification and evaluation standards; and set up a major business risk management indicator list and risk identification and evaluation standards, laying the foundation for major business risk monitoring and quantitative evaluation.

### Internal audit

- Build a "centralized, unified, comprehensive, authoritative and efficient" audit supervision system; clarify the border between the overall "management" by the audit department and the professional "process" of the audit center; issue the "Opinions on Establishing and Improving a Long-term Audit Rectification Mechanism"; and set up a linkage mechanism between the audit problem rectification and the Party building assessment.
- Strengthen audit with technology; initiate the development of the industry-audit integrated big data audit platform; realize "remote online +" audit for all items at the group level; achieve a verification rate of 87.2% for problems based on clues.
- Carry out 1,075 audit items involving economic responsibility, fixed asset investment, risk internal control, special issues or investigations; complete audit supervision tasks as planned; and contribute the audit value to the prevention and resolution of risks in project and equity investments and overseas assets.

### Business disclosure

- Pay close attention to key areas; carry out special inspections of key construction projects; revise and improve more than 20 relevant systems and regulations; strengthen online supervision of business disclosure; regularly investigate, analyze, classify and deal with doubtful issues.
- Disclose more than 4.4409 million pieces of information throughout the year, involving an amount of RMB 1.60 trillion and USD 189.086 billion.

## Highlight 1

### Empowering the green Winter Olympics to achieve the ice and snow dreams



The bidding and hosting of the Beijing Winter Olympic and Paralympic Games was a major strategic deployment made by the Party Central Committee with Comrade Xi Jinping as the core. As the official partner of the Beijing 2022 Winter Olympic and Paralympic Games, Sinopec was proud to serve, adhering to the theme of "Clean Energy for the Winter Olympics"; actively meeting energy supply requirements; providing material security; volunteer services and other aspects of work; and contributing to the hosting of an extraordinary and outstanding Olympic event.

### Supplying clean energy for a Green Olympics

As an enterprise partnered with both the 2008 and 2022 Olympic Games, Sinopec strictly followed the requirements of a "Green Olympics" put forward by President Xi Jinping. We were committed to green and clean development, and continuously providing clean energy for the construction of Winter Olympics infrastructure and events, so a "Green Winter Olympics" can be held.

### Integrated energy services

Sinopec provided comprehensive guarantees in terms of oil, gas, hydrogen, electricity and services to ensure the supply of the Winter Olympics. In order to ensure proper oil and gas supply during the Winter Olympic Games, Sinopec's Beijing Petroleum Co. deployed 30 oil products supply stations; 5 gas refueling stations and 3 hydrogen refueling stations in Beijing; and Hebei Petroleum Co. deployed 19 oil products stations and 1 hydrogen refueling station in Hebei. At the same time, the service stations were monitored 24/7, and according to the inventory capacity, traffic roads and other conditions, a distribution plan was formulated in advance to ensure a stable supply of oil products. Tianjin Petrochemical Co. developed and produced "-50" low freezing point diesel, which was used for emergency power generation at the Olympic venues. And Zhongyuan Oilfield Power Supply Service Centre provided temporary power supply technical services to 21 Winter Olympic venues, including the National Alpine Skiing Centre and the National Speed Skating Oval for more than 100 days.

### Clean oil products supply

In November 2020, Sinopec launched a new generation of environmentally-friendly high-specification gasoline — "X-Power" series, which could effectively remove and inhibit carbon deposits and take care of car engines. In December 2021, more than 500 service stations and 5 oil depots were in service with the higher quality "Beijing 6B" gasoline and diesel in Beijing, 55 days ahead of schedule. The stations saw refueling 33 times and approximately 45,000 liters of fuel supplied as of 17 February 2022. After using "Beijing 6B" standard oil, gasoline vehicle particulate emissions can be reduced by 20% to 30%; hydrocarbons can be reduced by 10% to 15%; carbon monoxide can be reduced by 6% to 10%; diesel vehicle particulate emissions can be reduced by 20%, and nitrogen oxides can be reduced by 10%, contributing blue skies and cleaner water in Beijing.

The Great Wall Lubricant launched a series of lubricant products for new energy vehicles and a series of lubricant-related products such as GB6 motor oil with an environment-friendly formula; a cold zone lubricant; new energy gear oil and a multi-effective antifreeze FD series, etc. All this has shaped the leading position of Great Wall Lubricant's new energy products and new technologies in a multi-dimensional manner as Sinopec serves "Green Winter Olympics" and helps achieving carbon peaking and neutrality goals.

### Hydrogen supply

In March 2020, Sinopec Yanshan's Beijing Winter Olympic Games hydrogen supply project was put into operation, with a hydrogen purity of 99.999%. Here, 197 trucks and 45.9 tonnes of hydrogen were delivered from January 25 to February 20, 2022, ensuring hydrogen supply to the main cauldron and hydrogen refueling stations.

Sinopec put four hydrogen stations into operation to serve the Winter Olympic Games, fueling more than 9,000 vehicles in total. Among them, Qingyuan Street Hydrogen Refueling Station; Wangquanying Hydrogen Refueling Station and Yanhua Xinglong Hydrogen Refueling Station jointly provided hydrogen refueling service for 311 hydrogen fuel cell vehicles in the Beijing Yanqing competition area, with a total daily hydrogen supply capacity of 4,000 kg; The Xiwanzi Hydrogen Refueling Station provided hydrogen refueling service to the Chongli competition area, with a daily hydrogen supply capacity of 1,730 kg.



Sinopec Yanshan's Beijing Winter Olympic Games hydrogen supply project



The employee of Sinopec Yanhua Xinglong Hydrogen Refueling Station refueled hydrogen for fuel cell vehicles in Beijing Winter Olympic Games

## New materials R&D contribute to the technology- empowered Olympics

Sinopec made contributions as the official oil and gas partner of the Beijing 2022 Winter Olympic and Paralympic Games, and explored new materials by leveraging its strengths in the main businesses; and contributing scientific and technological power to the Winter Olympic Games.

Shanghai Petrochemical took the lead in the research and development and mass production of the Winter Olympic torch, making the Olympic torch shell made of carbon fiber composite materials for the first time in the world, and using "Black Technology" to make the Winter Olympic torch "light, solid and beautiful", so that it can be used normally in a hydrogen burning environment higher than 800 degrees Celsius. Yizheng Chemical Fiber Co. developed and produced a variety of functional polyester staple fibers, which were used in the uniforms of the staff and volunteers of the Winter Olympic Games, as well as the ski suits and medal uniforms of some Chinese Winter Olympic athletes. The uniforms were 40% lighter and kept athletes warm. Beijing Petroleum Co. donated 100,000 biodegradable plastic bags to the town of Zhang Shanying, the site of the Yanqing Competition Zone, to be used for services at the venues and for the people's daily needs, reducing plastic pollution during the Games. "Donghai" asphalt was used to pave the important transportation projects for the Winter Olympics, such as the Daxing-Yanqing Expressway, Daxing Airport Expressway and Beijing-Chongli Expressway.



The shell of the Beijing 2022 Winter Olympic Torch "Flying Ribbon" was made of carbon fiber composite material developed by SPC, and the fuel was hydrogen gas produced and supplied by Yanshan Petrochemical



Fire Display Event at Beijing 2022 Winter Olympic Games



On February 4, 2022, the main Olympic torch, powered by hydrogen from Sinopec, was officially lit and the Beijing 2022 Winter Olympic Games opened

## Promoting Winter Olympics culture to support hosting an open Olympics

Sinopec responded to the call of the CPC Central Committee to "drive 300 million people to participate in winter sports", and was committed to spreading the culture of the Beijing 2022 Winter Olympic Games; popularizing winter sports knowledge; promoting winter sports and carrying forward the Olympic spirit.



Sinopec's first Winter Olympics-themed gas station - the third gas station of Chongli of Hebei Zhangjiakou Petroleum Co. set up a special area for Winter Olympics licensed goods



Sinopec Guiyang Petroleum built 2 winter Olympic-themed Etsy stores: Airport II & Baoshan

## Building Winter Olympics theme filling stations

In 2021, Sinopec joined hands with Panasonic to build the first Winter Olympics demonstration shop. Then, 50 filling stations around the competition venues in Beijing, Yanqing and Chongli were transformed into Winter Olympics theme stations to create a Winter Olympics atmosphere. Over 2.6 million "Winter Olympics commemorative refueling cards" were issued. More than 200 retail shops were built through Easy Joy convenience stores to sell Winter Olympics licensed goods, including Winter Olympics licensed commemorative badges, stationery, and bags. Through these measures, Sinopec promoted the Winter Olympics culture, attracted public attention to winter sports and promoted the development of the industry.

Great Wall Lubricants teamed up with Bridgestone to unveil the first Winter Olympics theme store for car maintenance. The two sides also built "Winter Olympic Car Care Centers" in Beijing and Zhangjiakou to provide international and high-end comprehensive car care services in the visual style of the Winter Olympics, and jointly built an important window to promote the culture of the Winter Olympics and corporate culture.

### Extended reading:

The "Easy Joy Ice and Snow Carnival PLUS" plan – that is, the integration of partner channel advantages, with 100 flagship stores and 1,000 Easy Joy stores linkage area sales, to spread the culture of ice and snow, and jointly create a new business cooperation ecology. We continued to help "300 million people to participate in ice and snow sports" and cheer for the "Green Winter Olympics".

### Carrying out Winter Olympics themed activities

In July 2021, Sinopec and the Beijing Winter Olympics Organizing Committee jointly organized the Beijing Winter Olympics Partner Club Activity with the theme of "Powering for the Brilliant" in Beijing, where seven "Clean Power Teams" made a collective appearance, and the Clean Power Team song "Winter Dreams" was released. The event also included the Honorary Team Leader Award Ceremony and the launch of the "Easy Joy Ice and Snow Carnival PLUS" program to spread winter sports culture and empower a "Green Winter Olympics".



Sinopec's "Clean Cheerleaders - Beijing Petroleum Branch" inauguration ceremony

### Spreading the culture of the Winter Olympics through multiple platforms

Sinopec spread the Winter Olympics culture and brand image in an all-round and three-dimensional way to enhance public attention and participation in the Winter Olympics. In September 2021, the Sinopec Fuxing Hao Winter Olympic high-speed train G2481 departed from Beijing North Station for the first time, incorporating plenty of Olympic and Sinopec elements in the carriage. In January 2022, the Olympic Culture Exhibition was held at Sinopec's headquarters. From January to March 2022, Sinopec placed advertisements on Beijing Subway lines 2, 5, 6 and 10, and placed advertisements for sub-brand products used in Winter Olympics on 338 buses in Beijing.



The conductor of Fuxing G2481 introduced Sinopec brand and Winter Olympics ice culture

### Innovative philanthropic Activities to share the Olympic passion

Sinopec combined education support with sports events, and innovative Winter Olympic philanthropic activities, dedicated to helping children in poverty-stricken areas learn about the Olympics; feel the charm of the Olympics, and realize Olympic dreams.



Sinopec's service memorabilia for the Winter Olympics

In May 2021, Sinopec's "Light Up Hope" Beijing Experience Camp was officially opened in Beijing Shougang Park. The camp lasted for 5 days and 35 young campers from Dongxiang County in Gansu and Bangor County in Tibet came to Beijing to experience winter sports; visit the Winter Olympics Exhibition Hall and scenic spots; feel the "Dual Olympic City"; and start the journey of fulfilling their dreams. In December, the first sponsorship showcase for the Beijing Winter Olympic flame was held in Beijing. And Sinopec celebrated through a video link with eight schools which were built with support and assistance of Sinopec in Fenghuang County in Hunan, Dongxiang County in Gansu and Bangor County in Tibet, bringing the presence of the Winter Olympic flame to the children; encouraging more children to participate in the Winter Olympics; experience the culture and pass on the Olympic spirit.



In May 2021, Sinopec's "Light Up Hope" Beijing Experience Camp was officially opened

## Highlight 2

### Continuing rural revitalization and supporting common prosperity

#### Releasing the assistance plan and connecting the strategy with rural reality

General Secretary Xi Jinping once said: "The prerequisite for rural revitalization is to consolidate the results of poverty eradication, and we should further our effort so that the people who have escaped from poverty can have better living standards. After the victory of poverty eradication, we cannot leave it be. We should adapt to the rural revitalization strategy organically, increase the tilted support to the key counties identified during rural revitalization, and urgently improve and implement the monitoring and support mechanism to ensure that the return of large scale poverty won't occur."

Sinopec has studied and achieved a deep understanding of the important remarks of General Secretary Xi Jinping on rural revitalization, and conscientiously implemented the decisions and deployment of the Party Central Committee and the State Council. We will improve the political stance, strengthen the organization and leadership; increase investment; find innovative ways and methods; participate and take the lead in the assistance projects at a high level, so the goals of rural revitalization could be achieved.

#### Sinopec rural revitalization overview

Pairing assistance and targeted support for counties	Baingoin County, Tibet Autonomous Region Zeku County, Qinghai Autonomous Region Dongxiang Autonomous County, Gansu Province Yopurga County, Xinjiang Autonomous Region Fenghuang County, Luxi County, Hunan Province Yuexi County and Yingshang County, Anhui Province
--	---

Distinctive support model	Focus on the development of three aspects-industry, education, and consumption  Create three distinctive brands of Sinopec to assist rural revitalization
---------------------------	---

#### Sinopec rural revitalization deliverables (2021)

##### Rural revitalization work performance

- Undertook the task of assisting 8 counties and 616 villages
- Invested 140 million yuan of funds in fixed-point assistance
- Invested 51.54 million yuan in aids for Tibet and Qinghai
- The system sent 355 teams to the villages
- The company dispatched 940 full-time village-based support workers
- 37,524 grassroots workers were trained in supported counties
- Completed 1.04 billion yuan in consumption support

##### Honors received on the rural revitalization work

- Awarded the title of "National Advanced Group in Poverty Alleviation" by the State Council of the CPC Central Committee
- Focusing on "One County, One Chain" Multi-dimensional Enhancement of Agricultural Products Quality Value was awarded the National Development and Reform Commission's Excellent Cases of National Consumption Assistance to Rural Revitalization in 2021, and was invited to participate in the formation of the Key Enterprise Alliance of Consumption Assistance to Rural Revitalization as one of the initiators; included in China Poverty Alleviation and Development Yearbook 2021
- "Industry+Consumption" characteristic support model was awarded Excellent Case of Rural Revitalization Practice of Beijing Listed Companies
- Sinopec has been appraised as "good" for four consecutive years since the assessment of the state-owned companies' performance of targeted assistance

#### Supporting the "one county, one chain" to create a characteristic industry

**Develop characteristic industries.** The "One county, one chain" industry direction is clearly defined for quinoa produced in Dongxiang County; gray dates in Yopurga County "Sunshine Bazaar"; tea in Yuexi County; and roasted duck eggs in Yingxiang County, ponkan in Luxi County, kiwi in Fenghuang County, yak meat products Baingoin County and agricultural and livestock products in Zeku County, while Dongxiang quinoa and Yuexi Turquoise Blue tea are taken as the "One county, one chain" demonstration projects, which are promoted to facilitate local economic development.

**Promote branding.** Actively liaise with branding agencies inside and outside the company, and join efforts in seeking the roots and pulse for specialties under "One county, one chain". Implement a branding plan for "Yuexi Turquoise Blue"; build a visual system, create the concept system and visual system for the Yuexi regional brand; produce a regional branding film, and promote the sustainable and healthy development of the tea industry as well as cultural tourism.

##### Case study Dedicated to assisting Dongxiang in developing quinoa industry

Sinopec has given full play to its advantages and introduced external professional resources to assist Dongxiang County plan and build a quinoa industrial park; carry out deep processing of quinoa; promote the extension of the industrial chain; and continue to expand its assistance. In April 2021, Sinopec led a large monomer project to facilitate the construction of an industrial park for quinoa processing in Dongxiang County. The total investment was 134.5 million yuan, covered an area of 67 mu; and took in 128 people for work. It featured the building of 3 demonstration plantation sites; the incubation of 10 industrial villages with quinoa as the main pillar; and was expected to benefit nearly 10,000 people from the embedded industrial chain. After the completion of the industrial park, the research and production of cookies, cereal bars, meal replacement powder and other high value-added products was expected to reach an annual output value up to 500 million yuan, boosting the value chain of the quinoa industry to the middle and high end and gradually forming the scale of the whole industrial chain.

In addition, Sinopec plays its expertise to improve the branding and product value of Dongxiang quinoa from industrialized elements such as quinoa processing, packaging, sales and branding, and distributes it through channels such as Easy Joy physical retail platform, e-commerce platform and low-cost logistics platform to open up external sales channels of Dongxiang quinoa and help Dongxiang quinoa form industrialization and scale merit rapidly.



Quinoa harvest in Dongxiang Autonomous County, Gansu Province



Xinjiang's Yopurga County has a crop of gray dates



Kiwifruit harvest in Fenghuang County, Hunan Province



The Anhui Yuexi Turquoise Blue Tea Industrial Park

**Case study** **Boosting the upgrade of tea industry and creating Yuexi Turquoise Blue brand**

Sinopec is utilizing its brand, platform, and channel advantages to promote the formation of a large tea corporate champion-Anhui Yuexi Turquoise Blue Investment Development Corporation. And we have integrated production, processing, brand marketing, tea tourism, science, and technology services, and management and development since September 2021.

With the integration of tea resources, 12 tea enterprises joined efforts, accounting for 12,000 mu of tea plantations in the county; 5 tea production and processing plants were optimized and upgraded, and the production of Yuexi Turquoise Blue was promoted. Also, the "Luo Yuan Chang" Yuexi Turquoise Blue brand was promoted from a professional perspective. Separately, three product background stories were created. They featured "Words of spring from the hill"; "Song Dynasty 13 markets"; and "69 thousand-meter peaks" as the main themes. As part of promoting the tea industry in the area, Sinopec is driving the work of the "Yuexi Turquoise Blue Tea Industrial Park", which includes the construction of an ecological tea garden demonstration area; a refined tea processing plant; a deep processing workshop; a tea industry research center; a tea culture museum; a tea culture experience museum and tea culture leisure lodging, through the integration of "three industries", driving tea industry into the track of modern agricultural development.

## Coordinating the input of resources to improve the quality of educational support

### Formulated a special program for education.

A special five-year plan was drawn up to support education. And Sinopec selected 37 schools out of 246 donated schools and paired them with affiliated companies so that they could receive targeted support.

### Accelerated hardware renovation.

The 37 schools have completed the first round of hardware renovation. And there was an emphasis on toilets, accommodation, classrooms, and other "urgent, difficult, worrying and long-awaited" problems. Sinopec is committed to running good quality schools at the doorstep of farmers.

### Increased investment in educational "soft power".

Sinopec brought in renowned universities, utilized educational resources from the eastern region, and organized a "Rural Education Principals' Forum" to improve the management ability of educators and the quality of teaching in the supported areas.

### Many measures were adopted to take care of the students.

114 companies donated a total of 130,000 books to Dongxiang County Petrochemical Middle School and other schools and tailored 579 students' winter uniforms.

## Widening distribution channels and leveraging various ways to support the industry

### Optimize the construction of distribution channels.

Relying on 28,000 Easy Joy convenience stores, the staff group purchase network, refueling Sinopec; and other online and offline retail channels, the company has increased the promotion of agricultural specialties in the supported areas, encouraged affiliated companies to purchase "One county, one chain" specialties; and organized 108 directly affiliated companies to participate in poverty relief projects through consumption. In 2021, the company helped sell 631 million yuan of poverty relief goods and helped purchase 409 million yuan worth of poverty relief goods.

**Improve the quality of consumption support.** Shifting from highlighting "amount" to highlighting "key areas and industries", the company supports targeted areas to build a regional brand to better serve the "One county, one chain" distribution system and help the value chain of agricultural products move towards the high-end. At present, 1,710 products from 23 provinces, 146 poverty-alleviated counties are included in the Sinopec Consumption Supported Products Catalogue.

### Case study Take advantage of Easy Joy distribution channel to drive sales of agricultural products

In September 2021, Sinopec Easy Joy's 4th Easy Enjoy Festival and the East Expo Easy Joy Trade Fair was held in Nanning, Guangxi. There were 16 booths for rural revitalization, and a total of 11 counties supported by the State-Owned Assets Supervision and Administration Commission, the National Rural Revitalization Bureau and Sinopec, and more than 20 manufacturers as exhibitors. At the same time, offline marketing activities for key commodities of support were organized.



Sinopec and Tibet are working together to develop the "Easy Joy - Tibet glacial water", which accomplished a total sales volume of 1.18 million tonnes and a sales revenue of 3 billion yuan by the end of 2021, contributing 250 million yuan to local taxes in Tibet and bringing employment to more than 500 people.

## Implement technical training and give full play to the advantages of talents



Sinopec has made practical efforts to train talents in the supported areas; effectively pooling the synergy of talent revitalization and activating the endogenous power of local rural revitalization. Sinopec has allocated 1.2 million yuan for the training of talents in the six designated support counties; ensuring that the full amount is available and dedicated. With the "one county, one chain" concept of industry; and to meet the application-oriented talent training needs of leaders of ethnic minority industries, training institutions at all levels within the system were mobilized to match teachers and develop courses. More than 100 CD-ROMs of lectures on farming, agriculture and forestry, animal husbandry, etc. have been produced. Also, Sinopec conducted special training courses for management of rural revitalization to interpret policies and analyze key points; and further improve the professional proficiency of rural revitalization cadres. By 2021, 8,523 rural grassroots cadres; 25,059 technicians; and 3,942 rural revitalization leaders were trained.

# Cleaner energy serves people's demand for a better life

## Government calls

During the 14th Five-Year Plan period, China will basically build an institutional framework for green and low-carbon energy development and a regulatory system with complete policies and standards; establishing a green and low-carbon energy transition mechanism led by the "dual control" of energy consumption and non-fossil energy targets.

— Opinions on Improving Institutional Mechanisms and Policy Measures for Green and Low-Carbon Energy Transition

## Sinopec's actions

Energy transformation to ensure energy supply	28
Promoting modern chemical industry with premium materials	32
Nurturing momentum for innovation-driven development	34
Production and operation with safety and stability	37
Feature: Develop the layout of the hydrogen energy industry chain to establish a clean and low-carbon energy system	40

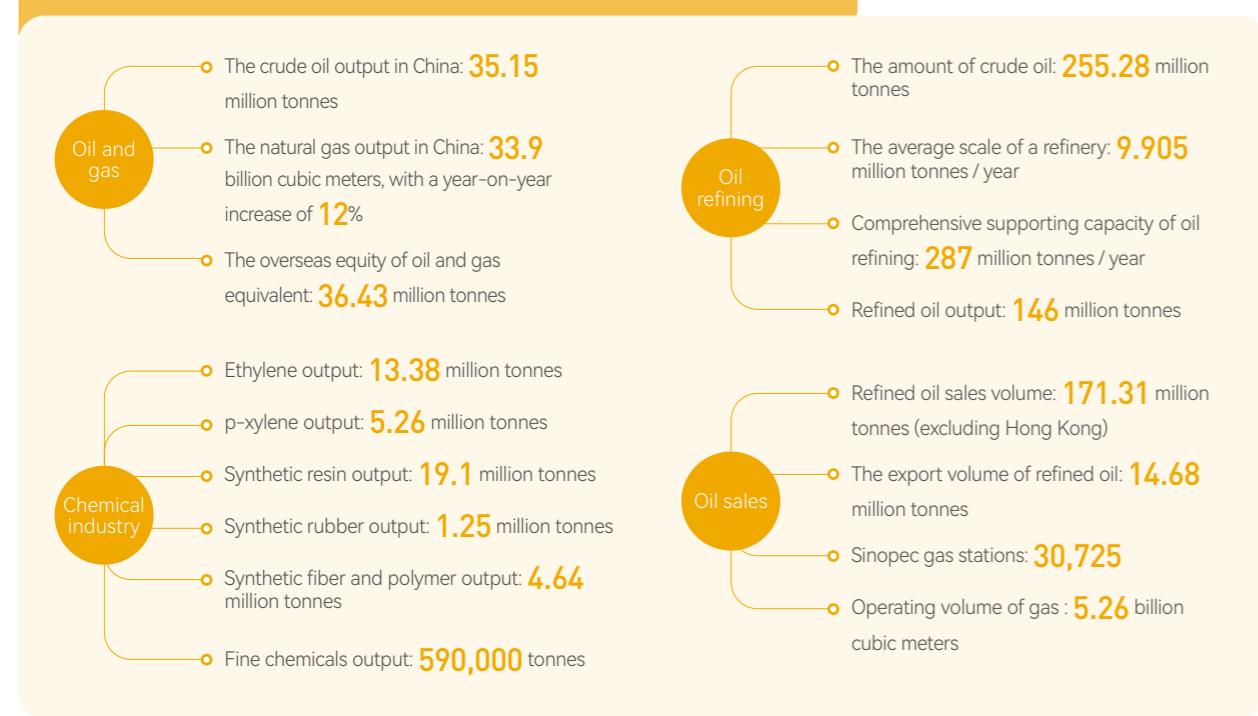


SDGs



Sinopec is focused on "securing national energy security by holding the people's rice bowl firmly in its hands, and making contributions in ensuring economic and social development". It has followed the trend of energy transformation and has accelerated the development of the industrial layout of "One Foundation, Two Wings and Three News" for future growth. Securing energy resources refers to One Foundation; developing clean oil products and a modern chemical industry are the Two Wings; and developing new energy, new materials, and a new economy are the Three News. Besides, Sinopec is focused on the complete industry chain, such as oil and gas exploration and development; oil refining production and operation; chemical production and operation; marketing of products and services; and international operations and engineering technology services of petroleum refining. It has also guaranteed the supply of energy and basic raw materials in all aspects; generating high-quality leads in the development of the petrochemical industry; and providing a better life with high-quality services.

### Conventional oil and gas and chemical products supply (2021)



### In 2021

- Sinopec registered 10 major oil and gas exploration discoveries in the year, adding proved reserves of 167 million tonnes of petroleum and 268.1 billion cubic meters of natural gas, beating the annual target specified in the "Seven-Year Action Plan".
- In June, the first-phase of the Sinopec Zhenhai Base was completed in Zhenhai, Ningbo, Zhejiang Province, making it the petrochemical industry base with the shortest construction period, the highest degree of localization and the widest digital application in China.
- In August, the Gulei refining and chemical integration project in Zhangzhou, Fujian province was put into operation. This project is the largest petrochemical cooperation project between the two sides of the Taiwan Straits. It took less than 3 months from the intermediate handover to the successful start-up; setting a new record for Sinopec's large ethylene intermediate handover and start-up in recent years.
- In October, Sinopec put the largest gas storage cluster in North China into operation, providing 10.03 billion cubic meters of gas storage.
- In December, the main project of Tianjin LNG Terminal, China's first LNG terminal with double berths, was officially put into operation. It increased the handling capacity from 6 million to 10.8 million tonnes per annum.
- In December, Sinopec completed the "Beijing 6B" oil product replacement required by the Beijing Municipal Government 55 days ahead of schedule. It has more than 500 gas stations and 5 oil depots. "Beijing 6B" gasoline and diesel is now supplied here, playing a positive role in improving the air quality in the capital.
- Sinopec has refined and implemented a supply scheme and emergency plan for the heating season; and made efforts to guarantee heat supply, ensuring a warm winter for people in the gas supply area. On December 25, the daily supply of natural gas reached a new record of 241 million cubic meters.



Sinopec's top ten oil and gas exploration discoveries

# Energy transformation to ensure energy supply

Sinopec has been involved in the development of cleaner energy such as shale gas, coalbed methane (CBM), geothermal energy, hydrogen energy, photovoltaics (PV), and wind power; has promoted the use of biomass energy such as aviation biofuel and biodiesel; and accelerated the construction of a convenient, efficient and moderately advanced charging and battery swapping network. It has further increased the proportion of cleaner energy and renewable energy supply; and established a pattern of coordinated development of oil, gas, hydrogen, electricity and services, with the aim of providing high-quality ecological products to consumers.

- Shale gas** Added production capacity of 3.4 billion cubic meters. Produced 9.98 billion cubic meters of shale gas.
- CBM** Optimizing the capacity of the Yanchuan South CBM Field. Produced 400 million cubic meters of CBM through the year. Equivalent to the annual gas consumption of 2.2 million households.
- Geothermal energy** Heating capacity of more than 80 million square meters. Replacing 1.35 million tonnes of standard coal annually, and reducing 3.52 million tonnes of carbon dioxide emissions.
- Hydrogen energy** Completed 76 hydrogen refueling stations in total (including oil and hydrogen refueling stations). Hydrogen refueling capacity 45 tonnes/day.
- PV** Completed 1,351 distributed PV power stations in total. Installed capacity of 43.8 MW.  
Baishui 20MW agricultural light complementary PV power generation project cumulatively generated 126.92 million kWh. Reduced carbon dioxide emissions by 103,600 tonnes, saving a total of 38,800 tonnes of standard coal.
- Wind power** Sinopec's first onshore wind power project - Shaanxi Dali Onshore. Distributed Wind Power Project - successfully connected to the power grid.
- Biodiesel** 242 B5 biodiesel supply stations of Sinopec Shanghai Oil Products Company.
- Low-sulfur marine fuel oil** The largest market share of low-sulfur marine fuel oil in China. Output of low-sulfur marine heavy fuel oil increased by 45.9% year on year.
- Coal chemical** The Sinopec-Anhui coal chemical project won the gold medal of the National Quality Engineering Award in 2020-2021.  
The commencement ceremony of the site formation works was held for the 200,000 t/a polyglycolic acid project of Sinopec Changcheng Energy Chemical (Guizhou) Co., Ltd.
- Charging (battery swapping) station and battery pack** A total of 1,322 charging stations, 4,867 charging columns are in service along with 83 battery swapping stations.

## Case study

### Annual output of Sinopec's Fuling shale gas field breaks a new record of 8 billion cubic meters

Sinopec's Fuling Shale Gas Field, the first major shale gas field in China, is located in the Fuling District of Chongqing City and is one of the key gas sources of China's Sichuan-East Gas Pipeline and a foundation of Sinopec's promotion of gas popularization in the Yangtze River Economic Belt. In 2021, Sinopec spared no effort to speed up the operation of new wells. According to the "three principles" of preparation construction and production, it has improved the application of technology with more than 130 new wells put into operation, which effectively boosts gas production.

As of December 31, Fuling Shale Gas Field had produced 8.54 billion cubic meters of shale gas with a year-on-year increase of 9.8%, setting a new record for the production of shale gas in the country. It has a daily gas production of 23 million cubic meters and can meet the gas demands of more than 46 million households. The gas field went into operation in March 2017 as scheduled with an annual production capacity of 10 billion cubic meters. And the cumulative gas production has exceeded 20 billion cubic meters, 30 billion cubic meters and 40 billion cubic meters respectively in 2018, 2020 and 2021, which shows the big strides made in the production process. As of now, cumulative gas production is 45.4 billion cubic meters. In 2021, the proved reserves of natural gas increased by 104.883 billion cubic meters; and the cumulative proved reserves were nearly 900 billion cubic meters, accounting for 33% of the proven reserves of shale gas in the country.



**Case study** Sinopec has become the world's largest geothermal district heating company

In recent years, Sinopec has improved its geothermal heating capacity, by establishing the "Xiongxin model" for geothermal energy development in 2014. In 2017, Xiongxin became the first geothermal city in the country. In July 2021, the "Xiongxin geothermal heating project" was listed in the global promotion directory of the International Renewable Energy Agency. In the winter of the same year, Sinopec launched geothermal heating services in Hebei, Shaanxi and Shandong provinces to meet the demand for clean energy heating in northern China. The services cover an area of 68 million square meters in northern China, satisfying the demand of more than 800,000 households.

As a leading geothermal enterprise in China and the largest geothermal heating company in the world, Sinopec has built 10 "geothermal cities". They are in Xiongxin, Daming, Gucheng, Qinghe, Bazhou, Rongcheng and Xinji of Hebei Province, Taiyuan Economic and Technological Development Zone, Wugong of Shaanxi Province and Qingfeng of Henan Province.

**Case study** Sinopec's first onshore wind power project has gone into operation, providing clean power for 20,000 households

In December 2021, Sinopec's first onshore wind power project - the Shaanxi Dali Onshore Distributed Wind Power Project - connected to the power grid, achieving a breakthrough in the field of wind power generation. With a total investment of 151 million yuan, the project has a total installed capacity of 20 MW. Besides, the annual on-grid power is about 42.86 million kWh, which can meet the demand of more than 20,000 households, reducing the use of 13,600 tonnes of standard coal and preventing 35,000 tonnes of carbon dioxide emissions annually.

**Case study** The world's first fully intelligent power swap station by Sinopec

In April 2021, Sinopec Chaoying Station, the world's first fully intelligent power exchange station jointly built by Sinopec and NIO, was officially put into operation. This station also played the role of a gas station, providing both new energy and traditional energy. The station uses the second-generation swap station technology developed by NIO. It has 13 battery reserves and can provide power services up to 312 times a day. It takes 4 minutes and 30 seconds each time, which is convenient and efficient as it offers automatic parking and a battery exchange. Users can complete the process of parking and battery exchange with the press of a button in the car.

With more than 30,000 gas stations across the country, Sinopec is in a good space to lead the charging business; explores the power exchange mode; and it plans to own 5,000 power swap stations by 2025. Sinopec aims to provide effective support for the development of electric vehicles in China and promote the rapid development of the electric vehicle industry, while striving to become an innovator and leader in intelligent electric vehicles.

**Case study** Sinopec's largest photovoltaic power generation project -- Grid-Connected 37MW Photovoltaic Shengli Power Plant

Sinopec Shengli Oilfield has accelerated the development of the new energy industry by utilizing its power grid and land resources. The photovoltaic power generation project of Shengli Power Plant has a total installed capacity of 37MW (an area equivalent to about 65 football fields), an annual power generation capacity of 50 million kWh, and a carbon emission reduction of 52,000 tonnes. The project guarantees the development of new energy in the oilfield; supports the green nod to commence shale gas exploration; and plays a vital role in the environmental protection of the whole region. In 2021, the installed capacity of photovoltaic power generation reached 100MW with an increase of the annual power generation capacity of 120 million kWh. Besides, carbon emissions were reduced by 104,000 tonnes, which is a major step towards achieving carbon neutrality.



The Sinopec Shengli Power Plant Photovoltaic Power Generation Project

# Promoting modern chemical industry with premium materials

Sinopec has made all-around efforts to develop premium materials and improve the research and development of high-end polyolefin materials; and advanced technology for the synthesis of fine chemicals and plastic processing. It has developed special fibers, resins, high-performance rubber and other products; and promoted degradable materials such as polyglycolic acid (PGA) and PBAT. In addition, it has combined the production, marketing, research and application of medical, health and photovoltaic materials to improve innovation and core competitiveness.

## Modern chemical industry profile (Abstract)

Sinopec has taken the lead in developing special materials for polyethylene thermoplastic elastomer (TPE) films; and antibacterial and antivirus meltblown cloth has been used to mask production.

Sinopec has also developed synthesis technology for medical PGA, with independent intellectual property rights. The PGA performance matches that of imported products. And the absorbable suture samples were prepared after a biocompatibility evaluation performed by a third party.

Sinopec has surmounted the technical difficulty in producing PBST and PBAT; and formed a complete technology research and development chain and value chain for PBST, from raw materials, polymerization process, material processing and application to analysis and characterization. It has realized the industrial production of degradable polyester PBAT which was applied to film bags, packaging materials and other fields.

Sinopec has tackled difficulties faced in producing green and environmentally friendly automobile lightweight materials and technologies, developing 15 types of automobile lightweight new products such as long glass fiber reinforced polypropylene and its composite materials. The overall technology matches advanced international levels, and some technologies are world leaders.

Carbon fiber, known as "the king of new materials" and "black gold", was independently developed and produced by Sinopec Shanghai Petrochemical. It was used for the torch of the Winter Olympics; and the high-speed train of Guangzhou metro line 18 "Blue bay".

## Case study Tianjin Nangang High-end New Materials Project Cluster

In May 2021, the launch ceremony of the Sinopec Tianjin Nangang High-end New Materials Project Cluster was held in Nangang Industrial Zone. It comprises a total investment of 60.3 billion yuan, and includes 11 mega projects such as a 1.2-million-tonne/year ethylene facility in Nangang; a pilot base of the Beijing Research Institute of Chemical Industry (BRICI); an LNG expansion; photovoltaic new energy, etc. With the 1.2-million-tonne/year ethylene project as the leading facility, the project aims to meet domestic needs, take the lead globally, and replace the import. The project extends the industrial chain with 12 high-end new materials, including ones with ultra-high molecular weight. The project is characterized by high-end product solutions; huge market potential; resource superiority; strong scientific and technological support; a green and low-carbon perspective; high-quality; and a low-cost competitive advantage. Relying on the Nangang Industrial Zone and the ethylene project, Sinopec is pushing forward the transformation and upgrading of the traditional petrochemical industry towards high-end; intelligent; green and integrated production during the "14th Five-Year Plan", and it constantly modernizing the industrial and supply chain.

## Case study Domestic new high-grade insulation materials have been used for industrial demonstrations for the first time

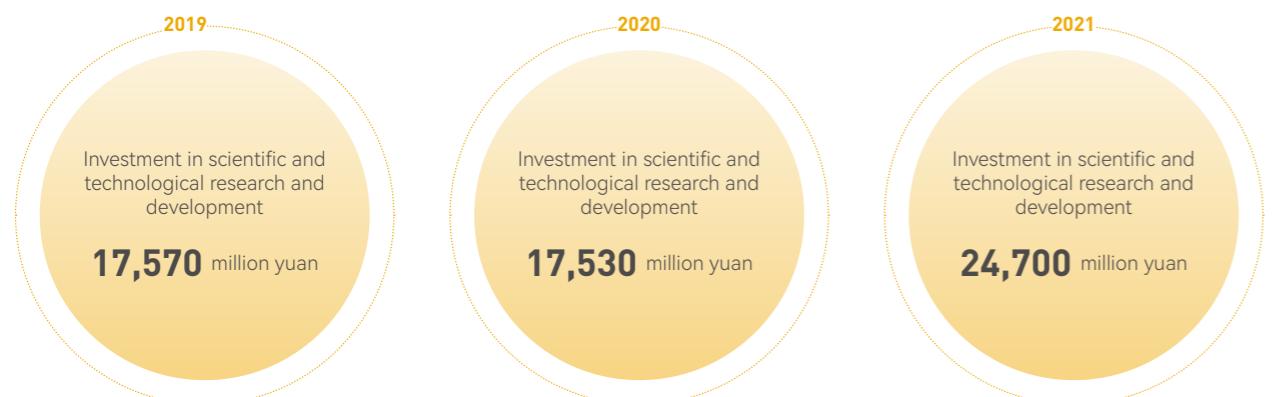
Insulating materials for cables serve as the "protective film" of wires and cables; and they are considered to be the "blood" of the national economy. They mainly include rubber and plastic. In October 2021, the 110 kV cable insulation material demonstration project of Yanshan Petrochemical, which is affiliated with Sinopec, was officially launched and the high-grade cable insulation material independently developed and produced was used for the first time. It marked the first industrial demonstration application of domestic high-grade insulation material, which will accelerate the localization of China's high-grade cable insulation materials and reduce dependence on imports in the long run.



Shanghai Petrochemical's carbon fiber production line

# Nurturing momentum for innovation-driven development

In keeping with national strategic needs and the company's transformation and development, Sinopec is implementing a special plan for science and technology in the "14th Five-Year Plan" by adhering to "four aspects" and promoting the "four types of projects". As a result, it has taken the initiative to seek an appropriate position in the new nationwide system; continued to deepen reform of science and technology systems and mechanisms; continued to seek breakthroughs in core technology; further its digital intelligence transformation; and push for high-level scientific and technological self-reliance. By the end of 2021, Sinopec had more than 60 multi-level research or development institutions and 24 academicians of the Chinese Academy of Engineering and the Chinese Academy of Sciences.



## Scientific and technological talents

Sinopec believes that "talent is the first resource", and it has implemented a strategy of strengthening the enterprise by cultivating a team of high-quality scientific and technological talents. The company has also strengthened talent training, especially for leading scientific and technological talents with a global vision and international perspectives; leading scientific and technological talents who specialize in core technologies and emerging businesses and three chief scientists of the company. Separately, Sinopec has set up a Youth Innovation Fund to back outstanding innovative projects and award the leaders of the project the title of "Young innovative talents in science and technology", to support them to scale new heights in science and technology. Further, the company is offering rewards and incentives in technology and has promoted several model performers, such as "The Most Beautiful Striver" Min Enze; the "Role Model of the Times" Chen Junwu, who has spirit of "hard work and perseverance"; and the "three honests" and "four stricts". In 2022, more than 120 science and technology awards were awarded and 20 excellent innovation teams were selected by the company.

## Strengthening scientific and technological innovation

### Systems management of scientific and technological innovation

Sinopec has established a system called "Sinopec Science and Technology Project Management". Here, there are 8 research institutes directly under the company which also has 2 overseas R & D institutions; more than 50 affiliated research institutions; 26 national R & D institutions, and 43 key laboratories.

In 2021, the company implemented its "Science and Technology Reform Demonstration Action", with eight research institutes directly under the company conducting basically completed the branch rotor company reform. Besides, Sinopec has accelerated the exploration of "large-scale combat operations", and implemented the mechanism of "science and technology rewards" and a "horse racing system". The company posted a notice to inspire creativity to promote six key core technologies and attracted 39 teams to take up the tasks. Additionally, it is working on new research and development institutions such as the Guangdong Institute of New Materials; the Ningbo Joint Academy of New Materials; and the Joint Green Chemical Industry Research Institute with Tsinghua University. Sinopec has also established incubator companies for "high-efficiency fire and explosion prevention equipment" and "Industrial Internet + hazardous chemical production safety" to create a favorable environment for innovation.

## Transformation and application of scientific and technological achievements

Sinopec has played an active role in support and guidance in science and technology; and promoted the transformation and application of scientific and technological achievements; adding vitality and momentum to industrial upgrading and economic development. In 2021, the company applied for 9,338 patents and authorized 5,844 patents at home and abroad. It won one China Patent Gold Award; four China Patent Silver Awards and 11 China Patent Excellence Awards; and seven projects won the State Science and Technology Award. According to the 2020 patent quality rankings of central enterprises published by the State-owned Assets Supervision and Administration Commission of the State Council in July, Sinopec ranked first for the third consecutive time. In 2021, the catalytic cracking technology with a high yield of olefins independently developed by Sinopec won the Best Petrochemical Technology of the US journal Hydrocarbon Processing.

In terms of oil and gas exploration and development, there were breakthroughs in the theory of exploration and development of various geological types of oil and gas reservoirs; and significant achievements in the theory of shale oil and gas formation and exploration and development technology. Sinopec has also made progress in the research and development of core technologies of high-precision seismic imaging; the core technologies of high-temperature MWD systems and rotary guidance. In terms of oil refining, the new molecular sieve catalytic cracking catalyst has been applied in the industry for the first time. Also, the company has developed a formula for the high-grade internal combustion engine oil; its industrial unit for high-temperature synthetic heat transfer fluid has gone into operation. In terms of chemical materials, its first linear α-Olefin and poly α-Olefins units were put into production with breakthroughs made in the development of a series of hydrogenated styrene elastomers. As for public-friendly technology, its million-tonne CCUS project was put into operation, and it intends to build the largest CO<sub>2</sub> capture system from flue gas in the coal-fired power sector in China.



"Analysis of the complete set of technology of million tonnes of ethylene for complex raw materials" won the first prize of the National Scientific and Technological Progress Award

### National Scientific and Technological Progress Award

Analysis of the complete set of technology of million tonnes of ethylene for complex raw materials	First Prize
Technology and application of high efficient development for major complex carbonate reservoirs	Second Prize
The key engineering technology of high water-cut oilfields to enhance oil recovery	Second Prize
Theoretical technology and demonstration application of subtle oil pools in fault basins: Taking the Jiyang depression as an example	Second Prize
Key preparation technology, equipment and application of high thermal conductivity mesophase oil-based carbon fibers	Second Prize
Wide-area collaborative high-end large-scale programmable automation system and its application	Second Prize

### National Technology Invention Award

Controllable coordination polymerization of olefins and preparation technology of high performance elastomers	Second Prize
---	--------------

## Improving the digital intelligence transformation

Sinopec is focusing on the implementation of its new development philosophy and high-quality development, to contribute to industrial upgrading; quality and efficiency; and industrial intelligence and digital transformation. Based on the model of "data, platform and application", the company will deepen its integration of digital technology and industry and generate competitive advantages, so as to build a World-Leading Clean Energy and Chemical Company; and inject momentum into the high-quality development of China's chemical industry.

### Case study Promote the digitization and intelligence of the entire industrial chain and high-quality development

Sinopec has promoted the establishment of a "Smart petrochemical" industrial Internet platform which supports the company's informatization construction and new technology applications. The platform is an important carrier for industrial interconnection; information exchange and innovation promotion. And the construction achievements have been selected as examples of network security and informatization of central enterprises. Separately, Sinopec has built a "smart brain" for production and operation; an intelligent operation center; realized cross-business and cross-sector sharing of production and operation data; and dynamic measurement of daily benefits of each sector. The center supports the dynamic optimization of crude oil and refined oil production; and improves the operation management and industrial chain collaboration. Sinopec, which focuses on the upstream, midstream and downstream sectors, is continuing to establish an intelligent "field, factory, station and yard". Separately, it has realized the cloud application of intelligent decision-making for oil and gas exploration and has improved the efficiency of multi-disciplinary collaboration. As of now, a total of 15 intelligent refining and chemical plants have been built, forming a production and operation mode for "global optimization; and precise implementation and closed-loop control" centering on efficiency. In addition, the company has developed a new paradigm for engineering and construction with integrated design; and modular construction and digital delivery. Besides, scientific research institutes have realized the automation of the experimental process; intelligent analysis of results; and convenient knowledge extraction and networking of technical services. Sinopec is also promoting an integrated system and network intelligent applications such as "Petrochemical wallet"; "one button refueling" and "digital RMB" in more than 30,000 gas stations, building a business ecosystem of "life of people with automobiles".

### Case study Sinopec's first digital oil and gas station put into operation

In July 2021, the first digital oil and gas gathering and transportation combined station of Sinopec, the Shunbei Oilfield Combined Station, was put into operation. The annual processing capacity of the station is one million tonnes of crude oil and 380 million cubic meters of natural gas. The facility is expected to inject new impetus to ensure the stable production of the Shunbei oil and gas field; and promote the economic development of Xinjiang province. The station integrates crude oil treatment; natural gas treatment; produced water treatment and sulfur recovery. And it enables the synchronous operation of the digital factory and real project to trace the status of construction data; equipment and modules; accomplishing management, inspection and other work without any manual intervention. Additionally, it can carry out emergency drills and simulation training with the characteristics of intelligent, clean, green and economic gathering and transportation.

### Case study Innovation of "Industrial Internet + Safe Production"

Sinopec carried forward the pilot promotion of "Industrial Internet + Safe Production" by optimizing the safety management information system and applying an information-based supervision platform for hazardous chemical transportation. It carried out the construction and application of 5G infrastructure and the coordinated development of informatization in the field of safety supervision and data governance, so as to promote the digital transformation of safe production. In 2021, Sinopec won the first prize in the third China Industrial Internet competition with the solution "Industrial Internet + Safe Production".



## Production and operation with safety and stability

Sinopec has studied and implemented the important remarks from President Xi Jinping on safety production; and boosting the development of the HSE management system. The company has deployed and carried out several specific actions, such as the three-year action of special programs to address safety problems, "accidents free in a hundred days", "five inspections and five stricts", so that the overall situation of safety production and business operation can be stable and secured.

## HSE management system

Sinopec revised and issued the Management Manual for HSE Management System to promote the systematization, standardization and scientification of HSE management. It has also organized the trial examination of the management system to improve the suitability, sufficiency and effectiveness of the HSE management system.

### HSE principle:

People-oriented, comprehensive management and put safety and prevention first

### HSE objective:

Free from injuries, pollution and accidents

### HSE commitment:

Abiding by laws and regulations of the countries and regions where Sinopec is working, and respecting local customs and habits. We keep our HSE values consistent in every business sector engaged.

Caring for life and health, protecting the ecological environment and adhering to zero tolerance for rule violations. Pursuing injury, pollution and accident-free objectives.

Implementing the green and clean strategy to provide clean, green and high-quality products and services to society.

Providing human, material and financial support to realize the objectives.

Communicating with the public about HSE performance and focusing on the needs of investors, customers, contractors and relevant parties. Consciously accepting supervision from all aspects to achieve continuous improvement.

## Hazard prevention and control

### Risk identification, control and treatment

Innovation in dual prevention mechanism

Sinopec has carried forward the three-year action of special programs to address safety problems and "two lists" of dynamic management of hidden perils and institutional measures. The company has also promoted the platform PHAMS; typical devices or facility security assessment checklists; and HAZOP and JSA tools. Besides, it has evaluated the risks of discharge of pipe racks and devices in refining and chemical enterprises; and carried out a risk analysis of process equipment and typical operations in hydrogenation stations, in order to effectively identify hazards and control the systemic risk. It has carried out an in-depth self-assessment of major oil and gas reservoirs by organizing experts to evaluate the overall marine risk and dealt with noise pollution for rectification and reform in light of the current situation.

Improvement of process monitoring

Sinopec has reinforced the management of abnormal information in production and established an accident, event and abnormal information management platform by integrating abnormal information such as fire alarm response and the monitoring of major hazard sources. The platform can trace and analyze "small abnormalities and events" in the production, so as to improve the sharing mechanism of abnormal information. Further, Sinopec has organized special supervision and rectification for key enterprises; entrusted a third party to carry out technical diagnostic services for the safety of offshore platforms; and arranged safety audits and experts' safety production supervision for coal mines.

### Emergency management in safety production

Sinopec has established an emergency management system with a clear hierarchy and explicit responsibilities; in which the main leaders take the overall responsibilities; the branch leaders focus on specific tasks; the business department takes charge of the projects; the safety department is accountable for supervision and relevant departments involve in other aspects of the system. The company has improved its emergency plan and built a system of "1 overall + 10 specials".

The company follows the emergency management principle of "early emergency" and has strengthened monitoring and early warning so as to take immediate countermeasures to avoid the spread and escalation of incidents. In addition, it follows the principle of "corporate-wide emergency" and has carried out emergency response training and emergency drills for all employees to improve their response to emergencies. The company has implemented the "135" principle of emergency disposal and established a spot check mechanism for emergency drills at the grass-roots level. It has also organized corporate-wide emergency drills to improve the response to major hazards of high sulfur gathering and transmission pipelines. In 2021, the national hazardous chemicals emergency rescue team (Puguang team) was named the first "advanced group of the national emergency management institutions".



The Sinopec Yizheng Chemical Fiber held the 20th Competition of Fire Fighting Safety Skills

## Operation safety

Sinopec carried out on-site investigation and discussion on the work permit, improved the "7 + 1" safety management system for direct operation links, and optimized key points with concentrated contradictions and risks such as JSA and operation monitoring. The management procedures and contents of the work permit have been standardized, so as to improve the operability and rationality of the entire system. The company advanced the technology of electronic ticketing by incorporating the on-site confirmation of safety conditions and the on-site issuance of work permits into the entire program. It also developed energy isolation, anaerobic operation and several systems which were urgently needed, and implemented reporting management of high-risk "bilateral" operations.

### Transportation safety

Sinopec has figured out the basic situation of oil and gas long-distance pipelines; sour gas pipelines of high sour gas fields and inter-refinery pipelines, and formulated specific measures in terms of responsibilities; supervision classification and new technology promotion. According to the requirements for flood prevention and fighting natural disasters, the company has investigated the risks of water pipelines and peripheral reservoirs; and implemented risk prevention and mitigation measures, so as to secure pipeline safety in the flood season. It also researched management standards for sour gas pipelines in high sour gas fields, aiming to provide technical support for reducing the safety risks for sour gas pipelines. Additionally, the company revised and issued the "Regulations on the Transportation of Hazardous Materials", which has standardized the consignment, transportation, loading and unloading, as well as the vehicles access and parking, so that the management and control of risks of hazardous chemicals transportation are boosted. It has also sped up the online trial operation of the hazardous chemicals transportation safety management system; completed the data access and development of the six main functions, such as transportation monitoring; early warning and alarms; and statistical analysis and presentation, so as to build an information-based supervision platform with an early warning system in a hierarchy and closed-loop management.

### Public security

In line with the requirements of public safety for industry in China, Sinopec has promoted the major objectives of public security and terrorism prevention. The company guaranteed public security during the 100th founding anniversary of the Communist Party of China; the "two sessions" (National People's Congress and the Chinese People's Political Consultative Conference); the China International Import Expo and other major conferences. It has also formulated a corporate-wide special emergency plan to counter natural disasters and the "Specifications for Risk Assessment and Prevention of Geological Hazards", for special treatment of geologic hazards of enterprises in Sichuan province and Chongqing city.

In keeping with the principle of "people-oriented, development with security and putting prevention first", Sinopec stresses overseas public safety management and has constantly improved its overseas public safety management system, actively carrying out an overseas public safety risk assessment and arranging public safety training programs to build up physical and mental health of overseas employees. The company will continue to promote safety inspections and improve people's ability to respond to emergencies. It also collected and analyzed information on risks; and issued advance notice about country risks and early warning for security. The company has had "zero deaths" related to overseas public security for 14 consecutive years.

## Feature

### Develop the layout of the hydrogen energy industry chain to establish a clean and low-carbon energy system

Hydrogen will power the next energy technology revolution and industrial development, serving as an important vehicle to achieve carbon peak and carbon neutrality. Sinopec is seizing this major strategic opportunity of hydrogen development; and is focusing on the hydrogen business as part of the company's new energy development. The company is promoting the entire hydrogen energy industrial chain, including top-level design; social cooperation; technology research and development; production, storage and transportation and network layout. It strives to be the bellwether of the hydrogen energy industrial chain by extending and strengthening the industrial chain. Currently, Sinopec has become one of the largest hydrogen suppliers in China, with an annual hydrogen production capacity of more than 3.5 million tonnes, accounting for about 14% of the total output across the country. Besides, it provides a solid foundation with links spanning transportation, storage, filling and utilization.

#### The plan for hydrogen development

In 2021, Sinopec formulated a special plan for hydrogen development, proposing to increase investment in hydrogen with the goal "led by 1,000 stations; green hydrogen demonstration with million tonnes of production, striving to be the first with two advantages, and achieving annual carbon reduction of more than 10 million tonnes". The company will develop an integrated industrial chain of hydrogen production, supply and marketing with a focus on refining petroleum and hydrogen transportation; become a comprehensive energy service provider of "oil, gas, hydrogen and electricity", and strive to be a leading hydrogen company and the bellwether of the high-quality development of the hydrogen industry in China.

"Led by 1,000 stations"

Sinopec aims to build the largest network of hydrogen stations in China, which includes 1,000 hydrogen stations and oil hydrogen joint stations.

"Green hydrogen demonstration project with million tonnes of production"

Sinopec aims to reach a hydrogen production target of 500,000 tonnes/year of non-fossil energy, with cumulative green hydrogen production exceeding one million tonnes in five years.

"Striving to be the first with two advantages"

Combining the advantages of hydrogen production, storage, transportation and application, Sinopec is powering itself in the fields of hydrogen transportation and green hydrogen refining.

"Achieving annual carbon reduction of more than 10 million tonnes"

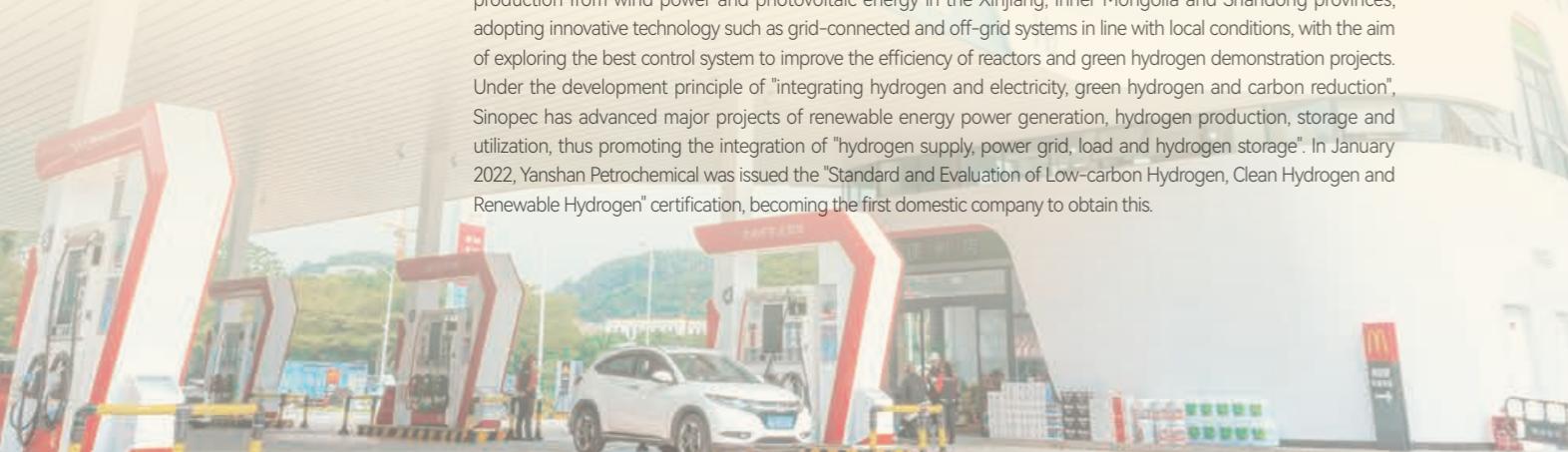
The annual carbon reduction by using green hydrogen will reach more than 10 million tonnes.

#### Promote cooperation in the entire industry chain

Over the past few years, Sinopec has invested in a hydrogen fuel cell company and carried out joint ventures and cooperation with international and domestic counterparts with a focus on hydrogen and fuel cells in the automotive industry. It has invested in several enterprises in the industrial chain such as Shanghai REFIRE Group Limited; Jiangsu Guofu Hydrogen Energy Equipment Co. Ltd. and Shanghai Sunwise Chemical Co. Ltd. The PEM electrolyzer plant for hydrogen production, which was jointly established with Cummins, has got underway. Additionally, the company signed strategic framework agreements for cooperation with major energy enterprises in China, attempting to be the "leader" of the hydrogen industrial chain to provide leadership and support to the hydrogen industry. Also, Sinopec is further strengthening all-around cooperation with various enterprises to jointly build an ecosystem of the entire hydrogen industrial chain.

#### The critical equipment for hydrogen production

Sinopec recently held a meeting for officials from 11 major hydrogen science and technology projects to promote scientific research of relevant topics. So far, it has made breakthroughs in the development of key catalysts for hydrogen production from electrolytic water and fuel cells; and designed platinum on carbon catalyst devices and a pilot plant for hydrogen production from electrolytic water. Further, eight enterprises (Beijing Yanshan Petrochemical Company; Tianjin Petrochemical; Shanghai Petrochemical; Gaoqiao Petrochemical; Guangzhou Petrochemical; Sinopec Hainan Refining and Chemical; Qilu Petrochemical and Sinopec Qingdao Refining and Chemical) have built hydrogen purification and filling facilities with a total capacity of 12,000 tonnes/year. The company has also launched projects for hydrogen production from wind power and photovoltaic energy in the Xinjiang, Inner Mongolia and Shandong provinces, adopting innovative technology such as grid-connected and off-grid systems in line with local conditions, with the aim of exploring the best control system to improve the efficiency of reactors and green hydrogen demonstration projects. Under the development principle of "integrating hydrogen and electricity, green hydrogen and carbon reduction", Sinopec has advanced major projects of renewable energy power generation, hydrogen production, storage and utilization, thus promoting the integration of "hydrogen supply, power grid, load and hydrogen storage". In January 2022, Yanshan Petrochemical was issued the "Standard and Evaluation of Low-carbon Hydrogen, Clean Hydrogen and Renewable Hydrogen" certification, becoming the first domestic company to obtain this.



#### Case study Sinopec's first PEM hydrogen production demonstration station put into operation

In November 2021, Sinopec's first proton exchange membrane (PEM) hydrogen production demonstration station was put into operation at the Yanshan Petrochemical plant in Beijing. This marked the establishment of the complete process independently developed by Sinopec ranging from key materials and components to system integration. It was an innovative move, providing repeatable technology and demonstration experience for enterprises to use "green electricity" to produce "green hydrogen". This will help accelerate energy transformation and establish green hydrogen energy bases in Beijing.

#### Case study Sinopec builds world's largest photovoltaic green hydrogen production project

In November 2021, Sinopec hosted an online launch ceremony in the cities of Beijing, Urumqi and Kuqa to announce that China's first 10,000-tonne photovoltaic green hydrogen pilot project, the Sinopec Xinjiang Kuqa Green Hydrogen Pilot Project, had officially started construction. Upon completion, the project will produce an annual green hydrogen output of 20,000 tonnes, making it the world's largest photovoltaic green hydrogen production project. The project will help promote the development of the green hydrogen industrial chain, the economic and social development of Xinjiang and ensure China's energy security.

#### Safe storage and transportation of hydrogen

Sinopec is an energy chemical company integrating upstream, middle and downstream sectors, and it has rich experience in the storage and transportation of gas-liquid and hazardous chemicals. So far, it has built three long-distance hydrogen pipelines, of which the longest transmission pipeline in China, referred to as the "Baling-Changling" hydrogen pipeline, has a length of 42 kilometers.

#### Promote the construction of hydrogen stations

Relying on the industrial foundation and advantage of the sales network of 30,000 gas stations and 870 filling stations, Sinopec has developed its hydrogen supply and hydrogen station construction, boosting its business of hydrogen transportation. As of now, a total of 76 hydrogen refueling stations (including joint stations with oil and hydrogen) have been built, with a hydrogenation capacity of 45 tonnes/day, which can provide service for 9,000 fuel cell vehicles.



#### Explore the application of hydrogen fuel cells

Sinopec has built its second testing and analysis laboratory for hydrogen and fuel cells, and the Dalian Institute has been granted all the qualifications of GB / T37244 proton exchange membrane fuel cells for automobiles with hydrogen. Separately, Yanshan Petrochemical has achieved mass production of battery hydrogen; supplying 500kg of battery hydrogen products to the market in Beijing every day; and more than 20 tonnes of hydrogen fuel cells to the market in Beijing and surrounding areas. This built a solid basis for hydrogen supply to vehicles during the Beijing Winter Olympics.

# Environmental protection efforts promote green development

## Government calls

As we seek a comprehensive green transition across the economy and society and focus on green and low-carbon development of energy, we will accelerate the creation of a industrial structure, mode of production, lifestyle and spatial pattern based on resource conservation and environmental protection, and take the path to green, low-carbon and high-quality development that puts ecology first, so as to ensure the realization of carbon peak and carbon neutrality as planned.

— Opinions about Completely, Accurately and Comprehensively Implementing the New Development Concept and Working for Carbon peak and carbon neutrality

## Sinopec's actions

Managing the environment to consolidate the foundation for environmental protection

**44**

Pursuing clean production to build green enterprises

**46**

Saving energy and reducing carbon emissions to tackle climate change

**51**

Protecting the ecology to build a better world

**54**

Feature: First million-tonne CCUS project helps realize carbon peak and carbon neutrality goals

**56**



SDGs



# Managing the environment to consolidate the foundation for environmental protection

We uphold the management philosophy of "putting environmental protection before anything else", Sinopec has kept refining this management system; has strengthened the protection against environmental risks; has upgraded project-based environmental protection; and made public environmental information, in a bid to improve the level of environmental governance.

## Strengthening environmental management

In accordance with national laws and regulations on ecological protection, Sinopec has revised and released its HSE Management System Manual developed and revised 10 environmental protection management systems; established an environmental protection institutional structure dominated by 16 environmental protection systems, and reviewed five and revised four first-level corporate standards. In doing so, the group company has improved its environmental protection standard system step by step.

Sinopec has also organized workshops for improving leadership in security and environmental protection for leaders; training for environmental protection managers; HSE auditor training and some other training for the personnel in key environmental protection posts, to raise their awareness and ability to execute their duties in environmental protection. Also, based on situations, all the subordinate organizations have held diverse forms of environmental protection themed training classes.

## Protecting against environmental risks

Sinopec has further included environmental risk prevention and control in its normalized management, and enhanced the level of environmental risk prevention and control. All the subordinate enterprises have carried out environmental risk identification and evaluation as required by the Guide; and exercised strict management for risk sources. Through measures such as developing leveled management plans for environmental risks; defining the responsibility for risk management and control; governing hidden environmental risks; continually strengthening the real level of environmental protection; accelerating the exit of facilities from the eco-red line and advancing the formulation of environmental protection protocols, Sinopec has reduced environmental risks. In 2021, guided by the group company, a major environmental risk and 21 first-level environmental risks were reduced, and no sudden environmental pollution or ecological damage incidents at the group company level occurred.

## Building project-based environmental protection management

Sinopec has continued to intensify environmental protection management throughout project construction; and revised and improved the environmental protection management system for projects. It has also strictly controlled the access of technical consulting organizations for environmental impact assessment and the quality of environmental impact assessment reports; ensured the audit and countersignatures for project feasibility study reports and basic design; and pushed for the strict implementation of project environmental impact assessment and approval requirements. As a result, the environmental compliance rate of all the newly built projects was 100% in 2021.

## Publicizing environmental Information

Based on Sinopec's requirements, all subordinate enterprises have established a system for publicizing corporate environmental information and publicized environmental information in accordance with the relevant State and local regulations. Besides, they have also put in place a mechanism for communicating ecological information with residents in neighboring communities; and taken active part in or carried out public welfare activities for environmental protection. By far, all subordinate enterprises have publicized environmental information as required, without any punishments or fines for poor transparency.



# Pursuing clean production to build green enterprises

Sinopec has implemented Xi Jinping's Thought on Ecological Civilization; practiced the philosophy about green development; popularized clean production in all aspects; advanced the "Green Enterprise Action Plan"; and facilitated the implementation of the strategy about green and clean development.

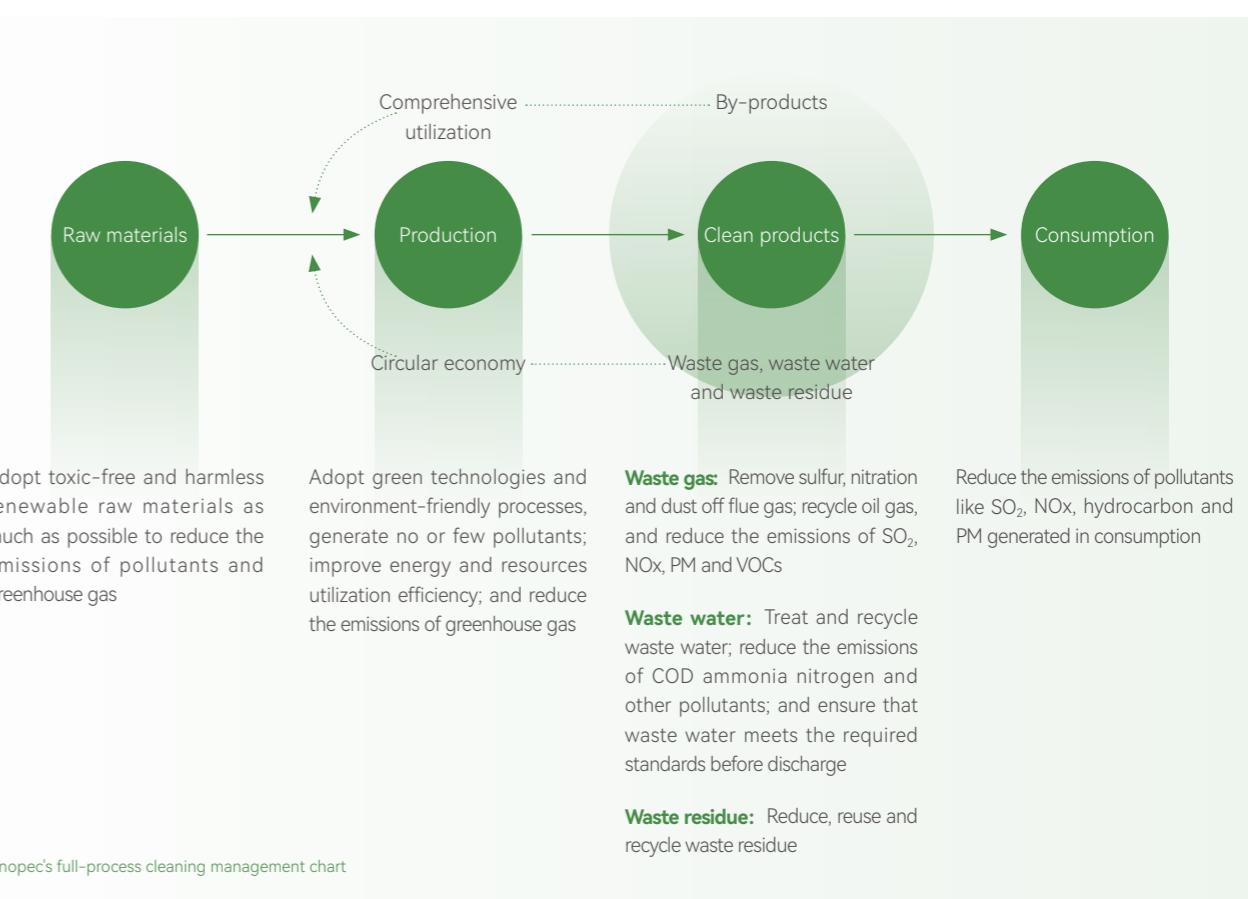


## "Green Enterprise Action Plan"

Sinopec has also pushed forward the "Green Enterprise Action Plan", built a system for green enterprise and green primary-level organization assessment and applied it to all business segments, achieving remarkable results in the supply of clean energies, utilization of resources and energies, as well as the reduction of pollutants and greenhouse gas emissions. In 2021, 32 subordinate enterprises were rated as "Sinopec Green Enterprises of the Year", and all have passed the review. To date, Sinopec has seen 104 enterprises turn into green enterprises; and over 14,500 primary-level organizations become green primary-level organizations.

## Clean production

Popularizing green production in all aspects, Sinopec has stepped up efforts to scale up green technologies and environmental protection processes; reduced the discharge of waste gas, waste water and waste residue and the emission of pollutants generated in consumption, so as to ease the environmental impact of operations throughout the process from the purchase of raw materials to consumption. By 2021, 12 enterprises under Sinopec were honored as State-level green factories; 4 enterprises as State-level green mines; 11 enterprises industry-level green factories, and 10 products of 7 enterprises as State or industry-level products with green designs.



## Reduction of waste discharge and pollution

Sinopec has prevented and treated pollution according to the standards higher than state and local ones. It has beefed up management and control; improved environmental protection facilities; reduced the discharge of waste gas, waste water and waste residue; prevented soil and underground water pollution; and treated production noise and smell by integrating the requirements for ecological protection into every part of its operations.

## Management of air pollutant discharge

By following State and local policies, regulations and standards on air pollution prevention and control, Sinopec has worked to cut air pollution and reduce the discharge of air pollutants by optimizing its energy structure and adopting clean fuel and raw (auxiliary) materials; clean production processes and advanced treatment technologies. Sinopec has implemented the initiatives of the State, such as pollution prevention and treatment, winning the battle to keep our skies blue, and fighting air pollution in the autumn and winter in an all-round way. It kick-started its emergency plan for heavily polluted air; and has adjusted production and pollution prevention and treatment facilities to ensure the realization of air pollution prevention and waste emission reduction goals. Sinopec has continued to implement the Special Action Plan for Ozone Pollution Prevention and Treatment; released the Sinopec Environmental Protection Improvement Plan 2021-2023; adopted the standards for NOx and VOCs emission concentration which are tougher than State and local ones; and pushed forward waste emission reduction projects. In 2021, the comprehensive compliance rate for waste gas was 99.9% across Sinopec, with sulfur dioxide and oxynitride emissions down by over 4% year on year.

**Case study****Sinopec refineries realize pollution-free emission of flue gas**

In recent years, ambient air quality has become a major issue of public concern. It has been widely recognized that the black smoke emitted from factory chimneys is the chief culprit that pollutes the air and threatens human health. As an urban refinery, Sinopec Jinan Refining & Chemical emits "white smoke" all year round. In fact, the white smoke emitted from the refinery is completely different from black smoke, as it is all water vapor which adds to air humidity in cold and dry winters instead of polluting the air.

The "big chimneys" of the refinery are a symbol of the normal operation of the two sets of flue gas desulfurization and denitrification devices, which use the wet refining process to remove the fumes and dust, SO<sub>2</sub> and NO<sub>x</sub> generated from the incineration of flue gas generated from catalytic units in CO boilers. Moreover, an online real-time monitoring system has been installed to enable direct upload onto State, provincial and municipal information monitoring centers of data which is visible on their official websites on a real-time basis. The "fat chimneys", or the circulating water field cooling tower air ducts, are a symbol of the normal operation of four sets of circulating water field cooling tower devices, which lower the temperature by spraying cooled water out of the top of the cooling towers and generate water vapor. The "thin chimneys", or the heating furnace chimneys of the production devices, are the symbols of the normal operation of production devices. During the production process, natural gas is consumed and only water vapor and carbon dioxide are generated, while complete combustion is realized by multiple means. Besides, to resolve the visual pollution caused by the "white smoke", Sinopec has embarked on the improvement of the devices and expects to remove "white smoke" through the recycling of water vapor in the future.



Ethylene wastewater treatment facilities at Sinopec Maoming Petrochemical

**Management of water resources**

Sinopec has kept optimizing the structure of water consumption; strengthened water conservation at the source; and carried out water balance tests and pipeline leakage treatment, to reduce industrial water intake; advance the replacement of fresh water with non-conventional water resources; and cut down the use of fresh water. In 2021, the group company saved 10 million m<sup>3</sup> of water, down 1.1% year on year. In the appraisal for "leaders" in water use efficiency organized by China Petroleum and Chemical Industry Federation, Qingdao Refining & Chemical; Zhenhai Refining & Chemical and Tianjin Petrochemical were honored as "leaders" in water use efficiency in the crude oil processing industry. Maoming Petrochemical and Zhenhai Refining & Chemical were granted the title of "leaders" in water use efficiency in the ethylene industry; and ZTHC was honored a "leader" in water use efficiency in the CTO industry.

Sinopec follows the policies, regulations and standards on waste water pollution prevention and treatment at the State and local levels; has intensified the management of water pollution prevention and treatment facilities; and controls the risks to all kinds of water bodies. Greater efforts are being made to reduce the emissions of waste water at the source. Also, refineries have improved the separation between rainwater and waste water; worked for the visualization of a waste water pipeline; and developed the information modules for a waste water and rainwater pipeline to increase the recycling of waste water and reduce the generation of waste water. Online environmental monitoring facilities have been installed as required by the government, to ensure the real-time monitoring of water pollutant discharge; pre-warning and warning measures were adopted; and the operation of production devices and the management of environmental facilities were adjusted to ensure the discharge of waste that meets required standards. In 2021, Sinopec ensured that 100% of waste water met required standards before being discharged externally; with COD and ammonia nitrogen discharge down by over 2% year on year.

**Management of solid waste**

While implementing the requirements of the new Solid Waste Law, Sinopec follows the principle of reducing, reusing and recycling solid waste and minimize landfill; and advances the comprehensive management and utilization of solid waste. It revised Sinopec's List of Dangerous Waste and minimize landfill; issued the Guide for General Industrial Solid Waste and Garbage Environmental Protection Management (For Trial Implementation); and took actions like the three-year special treatment of dangerous waste; and the treatment of solid waste in keeping with laws and regulations and the elimination and treatment of environmental hazards posed by solid waste in the Yangtze River and Yellow River basins by guiding subordinate enterprises to strengthen management. Also, it pushed for the building of two regional centers for the treatment of dangerous waste; formulated the work plan for the pilot projects of building Sinopec into a waste-free group; and cooperated with the Ministry of Ecology and Environment on the building of a typical demonstration group enterprise. In 2021, the compliant disposal rate of solid waste was 100%.

**Prevention against soil pollution**

Sinopec has also exercised pipeline integrity management; and organized enterprises to conduct research on crude oil pipeline corrosion and repair. Besides, it has inserted new pipes into older ones or replaced old pipes with new ones; teamed up with local governments and cracked down on oil stealing; and intensified oil transmission equipment maintenance, inspection and renovation, so as to make the equipment safer, more environment-friendly and reliable. Separately, it has strengthened environmental risk management to ensure no discharge of materials or sewage from accidental leakage into the external environment. In 2021, the group company saw no environmental events resulted from oil leakage.

**Prevention of underground water pollution**

In combination with the preliminary investigations on corporate land use, Sinopec has continued to monitor soil and underground water to implement a system for troubleshooting soil pollution hazards and the requirements for enterprises to conduct monitoring on their own. Sinopec has kept improving the system for the prevention and control of soil and underground water pollution; established a daily monitoring mechanism and has also organized the troubleshooting of soil pollution hazards in places where solid waste is generated (production facilities within 1 km of the Yangtze River system and 10km of the Yellow River system).

**Noise treatment**

Following the requirements of the new Noise Law, Sinopec has continued to advance the prevention and treatment of noise pollution throughout production and operations. By optimizing the layout of production facilities; prioritizing the use of low-noise processes and equipment; building noise-barrier facilities; monitoring noise and publicizing such information and strengthening the R&D of noise pollution prevention and treatment technologies and talent training, Sinopec has worked to control noise pollution and created a quiet and harmonious living environment.

## Circular economy

With a focus on the development of a circular economy, Sinopec has continued to reuse solid waste; and encourage enterprises to take measures to recycle waste gas, so as to increase the efficiency of the comprehensive utilization of resources.

Sinopec Northwest Oilfield is replacing concrete with a steel and wood foundation when building well sites, and achieved recycling. In 2021, the model was applied to 52 well sites on a cumulative basis and about 10,963 m<sup>3</sup> of concrete was replaced, reducing the construction waste generated at the source and yielding about RMB6.6 million of economic benefits.

Sinopec Beijing Oil has covered all the gas stations in operation with primary and secondary oil gas recovery units; installed over 260 tertiary oil gas after-treatment devices to recover the oil vapor escaping from gas stations; transmits it into the saturated oil gas in the underground oil tanks and reduces the loss from the evaporation of oil inside tanks. The oil gas in vehicles can be converted into petroleum available for use through secondary oil gas recycling, thus reducing the loss of gas fuel. If the daily refueling volume is 20 tonnes and the gas-to-liquid ratio is 1.1, about 28,000 L of oil gas can be recovered each day.



## Saving energy and reducing carbon emissions to tackle climate change

In keeping with the decisions and arrangements of the CPC Central Committee and the Central Government on carbon peaking and carbon neutrality, Sinopec included carbon emission management and control into its development plan; intensified energy management and pushed for the reduction of greenhouse gas emissions, to develop a paradigm for green development.

Zhenhai Refining & Chemical was honored with the title of "leader" by energy efficiency in the ethylene industry

Qingdao Refining & Chemical and Guangzhou Petrochemical were honored with the title of "leader" by energy efficiency in the crude oil processing industry

Hainan Refining & Chemical was honored with the title of "leader" by energy efficiency in the xylene industry

## Energy efficiency improvement

Sinopec has put extra efforts into the implementation of the "energy efficiency improvement" program; and perfected the system for energy management. Through energy conservation management; energy conservation through technology; and utilization of new energies and IT construction, it has worked to save energy resources; increase the efficiency of energy utilization and build green and clean enterprises. In 2021, the subordinate enterprises carried out 544 energy efficiency improvement projects in total, saving 967,000 tonnes of standard coal and reducing the emission of 2,380,000 tonnes of carbon dioxide.

### Improved the system for energy management

Developed and released the 2021 Energy Environmental Responsibility Letter to fulfill the objectives for energy efficiency improvement; dynamically track the intensity and quantity of energy consumption at subordinate enterprises and urge them to scientifically and reasonably develop annual production plans; optimize production and operation and control energy consumption.

Revised Sinopec's Measures for Managing the Inspection of Energy Conservation in Fixed Asset Investment Projects, to put an end to energy waste at the source and improve energy utilization efficiency.

### Deepened benchmarking work

Took an active role in the energy efficiency "leader" campaign organized by the State ministries and commissions and industrial associations and learnt from first-class performers. Studied and established energy efficiency benchmark indicators and organized benchmarking between enterprises and devices to tap the potential and improve energy efficiency.

### Accelerated the R&D and popularization of energy conservation technologies

Developed and popularized new energy conservation technologies; worked for breakthroughs in energy conservation processes, technologies and devices; scaled up the application of new energy conservation processes, technologies and devices that are mature and applicable such as those for the improvement of the energy efficiency of integrated oil and gas field development, the optimization of the energy system, the utilization of low-temperature heat, the comprehensive energy conservation treatment of the industrial cooling water system, and the renovation of key energy-consuming equipment for energy conservation purposes.

### Advanced the utilization of new energies

Built a clean and low-carbon energy consumption structure, and developed wind energy, solar energy, geothermal energy and some other renewable energy utilization projects.

### Enhanced IT-based energy management

Expanded the application of the energy management system, and made energy management better and more based on information.

### Conducted energy conservation inspection and energy audit

Followed the national plan and arrangement for energy conservation inspection; organized energy conservation inspection and audit in six subordinate enterprises; issued circular notices about energy conservation inspection; urged enterprises to align what they did with the inspection results and focused on rectification to ensure compliance with relevant laws and regulations.

## Management of greenhouse gas emissions

Sinopec has kept intensifying the management of greenhouse gas emissions; and further advanced the reduction of carbon dioxide and methane emissions. To date, the Company has been granted the title of "Low-carbon Example in China" for 11 consecutive years.

### Reduction of carbon dioxide emission

- Developed and revised the Measures of Sinopec for the Management of Carbon Emissions; the Measures of Sinopec for the Management of Carbon Trade; and other institutional documents to regulate the management of carbon emissions; intensify the inspection of carbon emissions from project construction and control carbon emissions.
- Refineries continued to recycle high-concentration carbon dioxide discharged from hydrogen and synthesis of ammonia production, and captured 1.52 million tonnes of carbon dioxide; using the CO<sub>2</sub>-flooding technology, oilfield enterprises injected 310,000 tonnes of carbon dioxide to increase oil recovery production of 89,000 tonnes.

### Reduction of methane emission

- Undertook pilot project of monitoring methane emissions from the oil gas exploitation industry assigned by the Ministry of Ecological Environment; developed the Plan of Sinopec for the Implementation of the Pilot Project of Methane Monitoring and Evaluation and arranged methane emission monitoring work in an orderly manner.
- Oilfield enterprises continued to intensify the application of the enclosed transportation process; recovered pipe gas; advanced the comprehensive utilization of flare gas; strengthened the recycling of scattered wells in remote areas; and recovered natural gas. In 2021, about 717 million m<sup>3</sup> of methane was recovered in total, reducing greenhouse gas emissions equivalent to 10.75 million tonnes of carbon dioxide.

### Research on carbon footprints

- Deepened the application of the outcomes of carbon footprint calculation and research for aviation kerosene, lubricant base oil, polypropylene and p-xylene; took an active role in the development of national and industrial standards; saw through the project Product Carbon Footprints, Product Category Rules and Petrochemical Products approved by the State Ministry of Industry and Information Technology.

### Management of carbon assets

- Gained a full picture of the quota surplus or deficit at enterprises; developed carbon trading plans; set up a full-time carbon trading team; centralized carbon trading management; fulfilled carbon quotas as scheduled.
- Further optimized the calculation module of the carbon asset management information system to support device-class carbon examination and carbon verification at all the subordinate enterprises and laid a solid foundation for developing emission control measures.

Carbon trading volume  
**2,690,000** tonnes

Carbon trading amount  
**64.93** million yuan

Carbon trading volume  
**3,600,000** tonnes

Carbon trading amount  
**120** million yuan

Carbon trading volume  
**9,700,000** tonnes

Carbon trading amount  
**414.07** million yuan

## Increasing exchanges and cooperation

Sinopec is active in multilateral cooperation and is exploring the path to realizing carbon peaking and carbon neutrality. It is working to be a demonstrator and leader in promoting ecological civilization and a response to climate change. Sinopec has signed an agreement with the National Forestry and Grassland Administration on comprehensive strategic cooperation, according to which both sides will cooperate on the path to realizing carbon peaking and carbon neutrality; improving the carbon sink capability of forestry and grassland, and promoting voluntary tree planting. Sinopec has also collaborated with COSCO Shipping and China Eastern on carbon neutrality, and realized the first batch of carbon neutral oil. Sinopec initiated the China Oil and Gas Methane Alliance, made a joint declaration and has vigorously advanced the methane emission control campaign across the industrial chain.



# Protecting the ecology to build a better world

Sinopec attaches great importance to the protection of the ecological environment, and abides by the environmental protection laws and regulations in the places where it operates. It is also boosting efforts to identify and analyze environmentally sensitive areas and environmental risks; and avoids ecologically vulnerable and ecological conservation areas as many as possible when it comes to operations. It is scientifically promoting the ecological restoration and the resumption of reclamation and planting around the waste mineral wells in oil and gas fields and along oil and gas transmission pipelines, to protect the ecological environment near the sites of operation. By building a number of garden-like plants; ecological discharge facilities; wetland parks; bird habitats and other elements, featuring a harmonious relationship between production and the environment, it is working to create a beautiful and green Sinopec. It is taking a combination of measures to protect biological diversity for harmony between humans and the nature. In 2021, the company had no incidents where biological diversity was damaged.



The Egret Park at Sinopec Zhenhai Refining & Chemical

## Case study

### Building an egret natural conservation area by improving the ecology in the core area

The Egret Park in the plant area of the Sinopec Zhenhai Refining & Chemical is the only egret habitat in China's petrochemical sector. With good water and air quality, the park attracts over 1,000 egrets at a fixed time of each year. In recent years, the company has upgraded the Egret Park by optimizing the whole ecosystem in the core area, and expanded the project to create an egret conservation area. The core area has expanded from 2,200 m<sup>2</sup> to 12,000 m<sup>2</sup>. It has also built a natural food chain to increase biological diversity in the park. Since the park was opened in 2013, the company has invited over 10,000 representatives from various sectors to visit the park to learn more about the harmony between plants and the egrets.



Sika Deer Park at Sinopec Luoyang Petrochemical



Fish can be raised in the treated sewage discharged from Sinopec Jiujiang Petrochemical



The Niukouyu Wetland Park at Sinopec Yanshan Petrochemical

## Case study

### Protecting Niukouyu Wetland Park to nurture ambient ecology

In recent years, Yanshan Petrochemical has been working to build a world-class green enterprise. It began to upgrade the Niukouyu Reservoir in June 2017, and it is now open to the public for free. Its design philosophy is "naturally reconstructing the wetland" and it has introduced new methods and ideas for purifying and recycling sewage from heavy chemical enterprises, it took the lead in Beijing in the ecology-oriented purification of industrial sewage that combines the treatment of industrial sewage discharged after meeting required standards; the natural ecological restoration system of wetland; and built the sewage treatment plant into a picturesque wetland park. In doing so, it has not only realized the discharge of industrial sewage after meeting required standards; protected the ecological environment nearby; and also created favorable conditions for biological diversity. At present, Niukouyu Wetland Park has over 140 species of wild birds and over 50 species of rare birds, including black storks, an endangered bird species under Class 1 State protection.

## Feature

### First million-tonne CCUS project helps realize carbon peak and carbon neutrality goals

With the climate change response and carbon neutrality goals, CCUS, as a carbon reduction and carbon sequestration technology, has become an important part of the carbon neutrality action plans of many countries. According to the Intergovernmental Panel on Climate Change, without CCUS, the goals set in the Paris Agreement can't be realized, and the cost of global carbon emission reduction will multiply.

In recent years, Sinopec has carried out a number of CCUS research and demonstration projects, which produced good results in enhancing oil recovery and reducing carbon emissions. In July 2021, Sinopec launched its first million-tonne CCUS project in China, Qilu Petrochemical-Shengli Oilfield CCUS Project, which was completed in January 2022. As the largest CCUS full-industry chain demonstration base and benchmark project at home, it is of great demonstration significance on the large-scale development of CCUS; and of great importance to building the "artificial carbon circulation" mode and improving China's capability in reducing carbon emissions. It will also contribute greatly to the realization of carbon peaking and carbon neutrality goals.

#### Extended reading:

- CCUS is one of the key technologies used to reduce carbon dioxide emissions. To be specific, the carbon dioxide emitted from the production process is captured and purified before being reused in a new production process and sequestered. This can directly reduce the emissions of carbon dioxide.
- After being put into operation, Qilu Petrochemical – Shengli Oilfield CCUS Project is expected to reduce the emission of 1 million tonnes of carbon dioxide each year, equivalent to planting nearly 9 million trees and not using nearly 600,000 economy cars for one year; and to increase crude oil output by 2.965 million tonnes in the next 15 years.

#### Carrying out research and practice to lay the foundation for projects

Sinopec has actively carried out CCUS R&D and engineering to provide valuable experience for the million-tonne CCUS project and lay a solid foundation for the fast development and large-scale application of the technology. It has conducted experiment in several oilfields; developed new modes of carbon dioxide treatment; resolved key technical problems related to CO<sub>2</sub>-EOR and sequestration and enriched theoretical knowledge. It implemented 36 CO<sub>2</sub>-EOR projects, and explored and mastered some domestically leading and international advanced capture technologies. Sinopec has systematically investigated the sources of large carbon dioxide emissions at home; studied and developed CCUS potential evaluation methods; established a source database and developed a series of low-cost processes and technologies across the whole chain.



In July 2021, the Sinopec CCUS Key Lab was set up at Shengli Oilfield



Technicians at the Sinopec Shengli Oilfield conduct a carbon utilization and sequestration experiment

#### Leveraging the advantage of the primary business and turning waste into something valuable

Sinopec's million-tonne CCUS project consists of two parts, i.e. carbon dioxide capture at Qilu Petrochemical, and CO<sub>2</sub>-EOR and sequestration at Shengli Oilfield. By giving full play to its advantage in integrated upstream and downstream operations, Sinopec transmits the carbon dioxide captured at Qilu Petrochemical to Shengli Oilfield, and injects and sequesters it into the stratum for enhanced oil recovery, thus turning waste into something valuable. To capture carbon dioxide, Qilu Petrochemical has built a 1-million-tonne-per-year liquid carbon dioxide recycling facility to recover the carbon dioxide in the tail gas of the hydrogen from coal device, with the post-purification purity above 99%. To utilize and sequester carbon dioxide, Shengli Oilfield, applies the principle that supercritical carbon dioxide and crude oil are easily miscible; and it has built 10 unattended gas filling stations, and injected carbon dioxide into 73 wells nearby, which has made crude oil more liquid and significantly increased the crude oil recovery rate. Also, closed pipelines are used in the whole oil and gas collection and transmission system, to further improve the rate of carbon dioxide sequestration.



Sinopec Qilu Petrochemical captures carbon dioxide and transmits it to Sinopec Shengli Oilfield for sequestration and enhance the oil recovery

#### Pushing forward industrial layout and promoting carbon emission reduction



Sinopec Qilu Petrochemical – Shengli Oilfield CCUS Project

Research shows that China has a relatively huge geological oil reserve suitable for CO<sub>2</sub>-EOR, and over 1 billion tonnes of carbon dioxide emitted will be neutralized by CCUS in the future. Accelerating the development of the CCUS industry will help advance the clean use of fossil energies; the large-scale utilization of clean energies and low-carbon production, thus guaranteeing national energy security.

During the 14th five-year period, Sinopec will step up efforts to achieve the industrialization of CCUS. It will build a carbon capture, utilization and sequestration technology R&D center; and work for breakthroughs in frontier and reserve technologies like CCUS + new energy; and CCUS + hydrogen energy and CCUS + biomass energy. It will also increase the application of the high-value chemicals prepared with carbon dioxide and the technology of mineralizing carbon dioxide; address the challenges related to the core technologies and key equipment for carbon capture, transmission, utilization and sequestration; extend the industrial chain of clean carbon sequestration; and build the source places for the innovation of carbon emission reduction technologies. Relying on the technologies of refineries like Nanjing Chemical, Sinopec will build more million-tonne CCUS demonstration bases in places like the East China Oil and Gas Field and Jiangsu Oilfield, to create a broader outlook for the realization of China's carbon peak and carbon neutrality goals.

# Creditable cooperation with partners for higher value

## Government calls

Efforts should be made to respect work, knowledge, talent and creation, modernize industrial and supply chains, ensure that they are independent, controllable, safe and efficient, and deliver better design of supply chain strategies based on targeted policies, in a bid to optimize and upgrade the whole industrial chain.

— Outline of the 14th Five-Year Plan

## Sinopec's actions

Delivering employee value through talent development

**60**

Improving the customer experience through brand leadership

**64**

Jointly building an industrial chain to boost industrial development

**67**

Feature: Working for comprehensive energy service station to meet customers' diverse needs

**72**



SDGs



# Delivering employee value through talent development

Sinopec has always regarded employees as its most valuable resource. So, we work to safeguard their legitimate rights and interests; ensure their occupational health; boost their career growth, and deliver care. We also work to synchronize talent growth with enterprise development, thus improving their sense of security, happiness and belonging.

## Democratic management

Sinopec also promotes democratic management and has improved its democratic management system mainly through the workers' congress system; the employees' director and supervisor system; and the factory affairs disclosure system. We give full play to the role of the workers' congress as the main channel to strengthen the employees' democratic supervision; listen to the opinions and suggestions of employees; and protect their rights to participate in democratic decision-making, management and supervision. In 2021, we received more than 7,700 proposals from staff representatives, 99.7 percent of which were implemented.

## Basic rights and interests

### Respect for human rights

Sinopec observes domestic and foreign laws and conventions; respects and upholds internationally recognized human rights; and fights disregard and abuse of human rights. As for recruitment, promotion, training and remuneration, employees of different nationalities, races, genders, ages, religious beliefs and cultural backgrounds are treated as equals, and the use of child labor is prohibited. We implement Labor Law, Labor Contract Law and other relevant domestic laws, conclude, perform, change, cancel or terminate labor contracts with employees according to law, and ensure labor contracts are in keeping with the laws. In addition, we advocate employee diversity and equal opportunities; employ ethnic minorities on an equal basis; improve the working environment and conditions for female employees and focus on their physical and mental health.

### Compensation and benefits

Sinopec attaches great importance to employee compensation and the welfare system, and implements an incentive policy featuring both salary incentives and non-salary incentives. In terms of compensation and welfare, we have strengthened the overall salary incentive and built a multi-dimensional incentive system based on the principle of connection with the value of the job, competence level and performance. Meanwhile, we have implemented such employee benefits as rest and leave, paid leave, and rehabilitation. As for social insurance, we follow the relevant national and local regulations to enable employees to be covered by pension, healthcare, industrial injury, childbirth, unemployment and other social insurance programs, with social insurance premiums paid on time and in full. We have also established a group-wide unified occupational annuity system, allowing affiliated businesses to offer supplementary medical insurance accordingly.



## Employee health

### Controlling occupational health risk

Sinopec has strictly abided by the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases; and issued a Circular on Further Strengthening and Regulating Occupational Health Management. We have intensified efforts to identify occupational hazards and risks; regulate inspection and monitoring of hazards; promoted excess hazard control; and implemented a pilot scheme to study chemical fiber plants and petroleum engineering noise control to improve the working environment.

### Enhancing employee health management

To coordinate staff health management, Sinopec has set up an Occupational Health Sub-committee under the HSE Committee at the group's headquarters. Here, we have identified and managed high-risk groups; established health records and developed person-specific health interventions. Besides, it has established first aid venues, equipment and facilities including AED and other emergency rescue devices; and published and released teaching videos on cardiopulmonary resuscitation and AED use.

### Caring for employees' mental health

Sinopec has also set up a mental health committee to monitor psychological abnormalities of employees; evaluate their health status periodically; and improve their mental health. During the COVID-19 pandemic, psychological wellness hotlines, psychological wellness surveys; compilation and distribution of psychological books; and online live classes were made available for key groups, including employees in key areas and overseas, helping them respond to the pandemic in a rational and peaceful manner.



## Career development

### Improving the talent introduction system

To build a more sophisticated talent pool, Sinopec has brought in top-notch talents from home and abroad through its "Double Hundred Plan", marking a major breakthrough in pooling high-level overseas talents. Based on the urgent need and shortage, we have highlighted marketization and professionalism, and introduced more than 220 socially mature talents. We channeled and supported the flow of talents to businesses in urgent need as well as newly established and emerging businesses. Throughout the year, we optimized the allocation of more than 1,230 talents within the system. We implemented the central government's drive to stabilize employment, attracting nearly 10,000 college graduates. An "enterprise-specific policy" was adopted to explore a new type of apprenticeship system, and the "enterprise-school dual system, work-study integration" approach was employed to address structural understaffing.

### Building channels for talent growth

In a bid to attract all kinds of talents, Sinopec has continued to strengthen its talent growth channels and improve its talent development mechanisms. We have made further efforts to improve the selection and management of the expert team; optimize expert management; carry out the evaluation of special-grade technicians; and break cross-sequence, horizontal development barriers on positions among the three teams. In 2021, three chief scientists, 10 chief experts, 71 senior experts and 49 top technicians were recruited from the group, and 264 of them were among the first to be made special-grade technicians.



### Improving the vocational training system

Sinopec has set up a leading group for education and training to improve the training system for new employees, managers and technicians, with 5,122 key personnel within the headquarters trained throughout the year. Moreover, we deepened the reach of the Sinopec Network Institute, and made our training more intelligent and targeted, with annual online training exceeding 50 million class hours. We also developed a school-enterprise mode for training talents; deepened cooperation with institutions of higher learning at home and abroad; and delivered good outcomes by using postdoctoral workstations and a mobile stations joint training platform. In 2021, 213 postdoctoral fellows worked in the postdoctoral workstations, 68 of whom were retained after leaving the stations; and seven young scientific and technological professionals were cultivated in partnership with the Imperial College London. Besides, we continued to push forward talent exchange and our versatile talent training model, and made solid progress in implementing "Three Thousand" practice program. We hosted three national-level competitions and seven group-wide competitions, and awarded gold, silver and bronze prizes to 157 contestants.

### Coordinating the development of a high-level talent team

### Enhancing the training of overseas employees

Sinopec is dedicated to building a high-quality talent team with improved core competitiveness. A number of top talents have won national honorary titles; two academicians were elected to the Chinese Academy of Engineering; and 80 experts with outstanding contributions from the group were selected and commended, along with 20 well-known petrochemical personnel and 200 technical specialists. We also carried out a "Future Scientists" training program, and selected 99 Min Enze young scientific and technological talents.

Sinopec has also conducted training of international talents based on specialties amid its efforts to address the impact of the pandemic overseas. With a focus on training overseas project teams, we held training courses for overseas project managers; international trade managers, international refining and chemical talents. Additionally, we restarted overseas public safety training; urged training bases to strictly follow the Pandemic Response Plan for Overseas Public Safety Training Courses, ensuring the completion of our annual training targets.

### Caring for employees

#### Nurturing a "family culture"

#### Visits to families of employees

Sinopec advocates the core philosophy of "interdependence between the enterprise and employees", nurturing a "family culture" at the oil (gas) stations, depots, and terminals. We are committed to turning our primary depots and stations into better homes featuring "warmth, safety, progress, harmony, responsibility, and integrity", making our employees happier and our enterprise cohesion stronger.

Sinopec has improved the long-term mechanism for "visits to families of employees"; done a survey of assistance within our system; studied the policy for relief fund compliance management, and resolved employees' practical problems. These moves directly benefited our employees in need, including those in difficulty; special employees and family members of overseas staff.

	Relief fund expenditure (100 million yuan)	People assisted and funded (person-time)
2019	1.87	113,341
2020	1.97	116,867
2021	1.77	116,867

### Caring for retired employees

In keeping with the idea of "enabling retired employees to live a happy life is our responsibility", Sinopec has practiced "respecting and caring for the elderly heart and soul", improving their mental and physical health through health check-ups, field visits, recreational and sports activities, greetings and psychological counseling by telephone amid the pandemic. In 2021, its health check-up for retired employees totaled 360,000 person-times, and over 60,000 visits were paid to sick and hospitalized retired employees.

# Improving the customer experience through brand leadership

With its customer-centered approach, Sinopec has focused on product and service innovation; improved product quality and service value; and established its proprietary product and service brand system to meet customer needs and expectations for a better life.



In May 2021, Sinopec showcased its six major business segments at the China Independent Brand Fair

## Brand building

In line with the brand slogan "Cleaner Energy, Better Life", Sinopec has created high-quality products and services; and established a highly identifiable brand system for its products and services. With a brand value of US\$26.4 billion, Sinopec ranked 58th among the Brand Finance's Top 500 Global Brands by Brand Value in 2021.

## Non-oil businesses

Sinopec has diversified its business by going into automobile service, advertising, catering and coffee, registering a year-on-year growth of 26% in its new businesses for 2021. Specifically, we moved faster to develop the automobile service business, bringing the total of number of service outlets to 8,993. We worked with automakers and dealerships to set up auto sales stores to meet demand for new cars and replacements. We accelerated the introduction of renowned brands and regional fast food brands--12 new international brand restaurants with a total of 62 outlets; and 236 new regional brand restaurants with a total of 1,341 outlets. Moreover, we established Easy Joy Coffee, adding 37 Easy Joy cafes through 2021, with 48 cafes in operation. In 2021, we logged 35.36 billion yuan in operating revenue for our non-oil businesses, up 4.5 percent year-on-year, and 4.06 billion yuan in operating profit, up 8.5 percent from a year earlier.



## Product quality

In our effort to deliver high-quality oil products, we focused on quality risk control in the selling process, and established a whole-process quality management system covering "procurement, storage, transportation and sales". Besides, we completed the following tasks: establishing an internal control index system for oil outsourcing to prevent quality risk; improving the supplier management system to cement a "firewall" for procurement; establishing a complete laboratory network, building a professional management and inspection team, and improving the quality inspection system; implementing the whole lifecycle management of oil products to ensure quality control of all segments; and implementing IT-based quality development, and creating an intelligent quality control mode to provide customers with safe products.

For chemical sales, we continued to follow the concept of "quality first", and focused on integrity, service and responsibility for a top quality-oriented cultural environment. In line with the philosophy of "top products with high quality", we improved our quality management system by making the quality of all products and services a part of quality management responsibilities for all levels and jobs. We engaged in our business operations in accordance with law and in good faith, and further combined production, marketing, research and application, to resolve product quality problems faced by our customers.

## Customer service

Based on improved content and pre-sales, during-sales and after-sales customer service, we have established multi-level customer communication channels featuring intelligent robots, 95388 SMS, email, WeChat accounts, CRM platforms and petrochemical E-trade platform, supplemented by our unified customer service center and 95388-0 manual telephone service. We have also upgraded our intelligent customer service function, and promoted and applied it for sales of lubricating oil and chemical; EPEC.com and fintech platforms, with intelligent online automatic responses representing 45% of the total consultations. Through customer visits; customer service centers; online services; customer complaint handling and feedback; customer satisfaction surveys and other approaches, we have communicated more with customers, learned about their needs and met their requirements. Besides, we have improved our customer information authentication and information protection system to ensure customer privacy and information security.

Meanwhile, our "one-click fueling" function was promoted nationwide to deliver contactless services such as fueling, payment, billing and shopping. In addition, our custom-made "shihua youni", a Sinopec app for petrochemical services, provides our customers with online services such as ordering, pick-up appointment, and online inquiry, improving the customer experience.



**Case study** Sinopec has introduced innovation-driven "futuristic technology" to enhance the customer service experience

With its focus on both technological innovation and service innovation, Sinopec is committed to winning the trust of its customers using cutting-edge "futuristic technology"; improving the after-sales service experience and meeting diverse needs.

Operating the country's first intelligent fueling robot for contactless fueling services

China's first intelligent fueling robot has been put into trial operation at the West Gas Station of Sinopec's Nanning Petroleum South Station in Guangxi. The robot, independently developed by Sinopec, boasts eight functions including automatic identification; accurate positioning; dynamic monitoring of simulated operation; real-time feedback; man-machine collaboration and information sharing; and cloud maintenance. Car owners can access the contactless fueling service via Sinopec's "one-click fueling" app in 180 seconds, and it delivers "intelligent automatic fueling".



"Simplified payment" facilitates convenience when fueling

Using the Internet of Things technology, Sinopec Guangzhou Petroleum has started "simplified payment" at 238 gas stations. RFID electronic tags installed on the inner side of the fuel tank cover allow accurate identification of vehicles. Payment is completed in no more than 15 seconds upon employees' receipt of prompts from their smart bracelets, shortening payment time by about 60%, and delivering an instant, safe, and automatic fueling experience.

Promoting the "Bulk Oil Register" to facilitate rapid registration

Sinopec Guizhou Anshun Petroleum has launched a futuristic technology-based "bulk oil register" at rural gas stations. The operation process is simple. Users can use an ID card in the induction area and input a phone number, oil product, amount of money, and other content to complete registration. The launch of the register has not only improved on-site operation efficiency, but also won the favor of customers, solving the problem of heavy workload of bulk oil registration.

## Jointly building an industrial chain to boost industrial development

Sinopec is paying great importance to the development of industrial chains, by adhering to the principle of transparent procurement; improving management of suppliers and contractors; and cementing strategic partnerships to drive the progress of national industry and boost its sustainable development.

### Bidding and tendering management

Sinopec has also improved a "1+6+12" bidding management system; enhanced the management of tenderer representatives; prohibited discriminatory and biased terms in bidding process; regulated bidding management of imported materials; and publicized and implemented relevant laws, regulations and management systems to create an environment for open and fair competition. In 2021, we made public the documents entitled the Promoting High-quality Development with High-quality Supply and the Announcement on Seriously Handling Dishonest Behaviors in Bidding and Tendering, in a bid to create a well-regulated supply ecosystem featuring orderly competition and integrity. Besides, we upgraded the electronic bidding and tendering platform to promote digital supervision of bidding, and established a whole-process supervision system for bidding and tendering. We also intensified efforts to combat bidding-related problems, organized 117 enterprises to complete self-inspection and self-rectification, conducted on-site inspections of 25 key enterprises, and dealt with 98 dishonest suppliers.

## Supplier management

In accordance with national laws and regulations on procurement through open bidding, Sinopec has adjusted its guidelines for supply and resource management, and opened its arms to suppliers. We have provided suppliers with opportunities to participate in procurement; improved our mechanism for supplier qualification examination and dynamic assessment of contract performance; and carried out green procurement and supplier training, to jointly maintain a transparent, healthy and honest material supply ecosystem.

### Implementing qualification reviews

Sinopec has implemented the supplier qualification review in line with the principle of pre-and post-qualification review; conducted onsite reviews of suppliers providing materials for production equipment, and involving production and construction safety. This has been done in accordance with the requirements for the "onsite review of factories, equipment, products, management, and performance". The on-site reviews involved a total of 1,644 suppliers throughout the year.

### Enhancing quantitative evaluations

Sinopec has established the EPEC.com standard system for objective evaluation of the overall strength of suppliers. Our real-time display of the EPEC.com standard data via the EPEC.com platform; and the application of the EPEC.com standard data in the bidding and tendering process, have prompted suppliers to improve their supply services. By the end of 2021, a total of 8,159 suppliers had completed the legal entity credit certification; 13,971 products had passed the product quality evaluation; 44,654 suppliers had conducted the dynamic evaluation of contract performance; and 19,149 suppliers had completed market performance ratings.

### Boosting warning and punishment

Sinopec has stressed contract performance for material suppliers of key engineering projects; giving timely warnings and prompts to suppliers with quality and schedule issues; and punished non-compliant suppliers. In 2021, we issued Work Reminder Letters to 46 suppliers and dealt with 138 non-compliant suppliers.

### Promoting strategic cooperation

Sinopec issued the Operation Regulation for Strategic Cooperative Suppliers of Materials Procurement (Trial) to standardize the selection, cooperation and evaluation of suppliers and advance strategic procurement. In 2021, we signed 5-year strategic cooperation agreements with 67 suppliers.

### Implementing green procurement

Sinopec compiled and issued the Sinopec Green Materials Procurement Catalogue (2021), to guide enterprises in priority procurement of green products; promote the development of the green evaluation standard; guide suppliers to improve green production processes and green raw materials; boost optimal procurement in total green purchasing costs; and drive upstream and downstream enterprises over green supply chains.

### Improving training and guidance

Based on material supply management; the supplier resources management system; and bidding and tendering management system, and keeping in line with the current operation environment, Sinopec proposed stricter requirements for suppliers with regard to anti-corruption; environmental protection; safety management, and green procurement, in a bid to promoting suppliers' integrity management. In 2021, nine supplier training sessions were held, involving 1,454 person-times.

## Contractor management

In keeping with the law, Sinopec has set up a procedure for bidding for warehousing registration; clarified the content of the contractor warehousing registration; organized a compliance review regarding contractors' business licenses, qualification documents, and other documents; and provided information on occupational health and safety management systems, environmental management systems and quality management systems. We have also organized the Sinopec contractor management information platform for online assessment of contractors and subcontractors, so as to identify and record the problems of contractors and their employees; do timely reviews of the assessment results; and promote contractors' overall self-improvement and capacity building. Moreover, we have enhanced the safety management of contractors; established a mechanism for continuous safety man-hour recognition and reward for construction projects; improved safety with the development of standardized construction sites and modular bases; and promoted the development of the HSE culture system for engineering projects. Additionally, we have revised and improved systems for contractor management, and boosted the company's contractor management system.



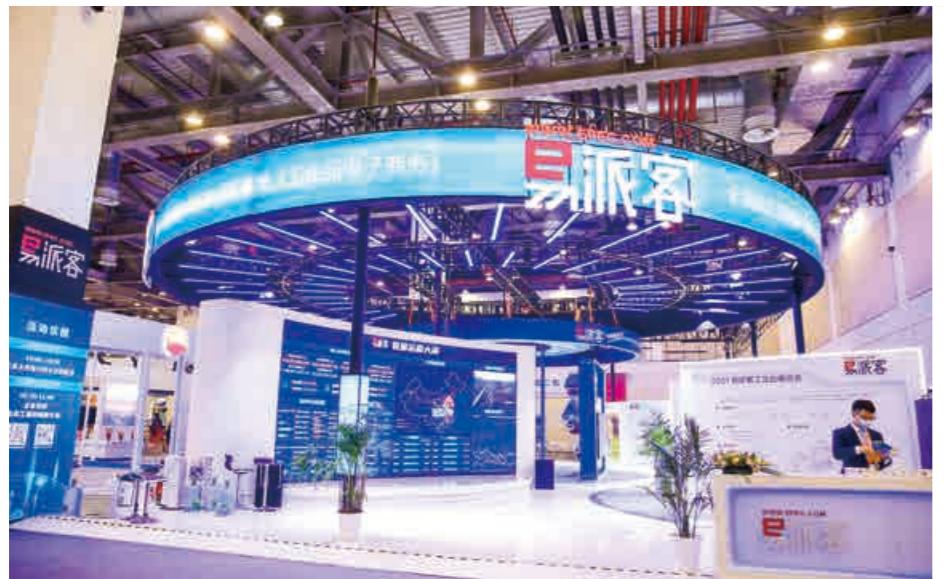
## Driving the development of the industrial chain

### Operating the EPEC.com platform

EPEC.com, an industrial product e-commerce platform affiliated to Sinopec, aims at "making procurement more professional". Based on the SC2B e-commerce model featuring "Internet + supply chain", the platform targets four major sectors - procurement; sales; finance; and integrated services, and is committed to realizing value-added procurement and supply chains. Meanwhile, the launch of international business platforms in English, Russian and Spanish has attracted Chinese enterprises to go global and global enterprises to make their presence felt in China.

### Year 2021

- Upgrade and launch of EPEC.com platform 2.0, and launch of exclusive mall for procurement; and a mall for brand products.
- 1.95 trillion yuan in aggregate transaction value; and a total of 99,000 registered enterprises.
- 3.33 million categories of online goods and 9.87 million online individual products.
- More than US\$64.4 billion in cumulative trading value on international business platforms, covering 104 countries and regions worldwide.
- Cooperation with a total of 169 suppliers and 156 purchasers from 59 countries involved in the "Belt and Road Initiative", and US\$23.6 billion in import and export value of industrial goods among enterprises involved.
- A total of 5,644 enterprise standards; two international standards; three national standards; four industry standards and 12 group standards issued by E-Standard.
- Over 25.3 billion yuan in efficient factoring financing provided by E-factoring for a total of 543 platform users.
- 618 million yuan in financing for more than 666 platform users served by E-bill Manager.
- 71.64 million yuan in the cumulative transaction value of EPEC.com travel business.
- 3,141 platform enterprises underwritten by E-insurance with premium value of 11.71 million yuan.
- A total of 1,231 enterprises served by E-logistics.
- 36.21 million yuan in transaction value via E-life.
- Ranking among the first batch of national supply chain innovation and application demonstration enterprises.
- Honored as a National SME Public Service Demonstration Platform in 2021.
- Ranking among the "2021 My Favorite Chinese Brands".



In October 2021, the EPEC.com Industrial Products Exhibition cum Petroleum and Petrochemical Industry Exhibition was held in Suzhou. The picture shows the booth of EPEC.com.



## Strengthening strategic cooperation

Sinopec has implemented a strategy of openness and cooperation, and inked cooperation agreements with government agencies, enterprises and universities to expand cooperation for synergies and mutual benefit.

### Some of Sinopec's strategic cooperation projects in 2021

- Jan.** Sinopec signed a strategic cooperation agreement with Tsinghua University to strengthen university-industry-research-application collaborative innovation and in-depth cooperation in scientific and technological innovation; talent training and strategic consulting.
- Apr.** We inked strategic cooperation agreements with two alternative energy enterprises, Nio and Aulton New Energy Automotive Technology, to work for green transportation.
- Sept.** We arrived at a comprehensive strategic cooperation framework agreement with the government of Xinjiang Uygur autonomous region to contribute to the regions' high-quality development.
- Oct.** We concluded a strategic cooperation agreement with JD.com for in-depth cooperation on energy supply services and goods, logistics; and digital intelligence.
- Dec.** We signed a strategic cooperation framework agreement with CNPC to deepen cooperation in oil and gas exploration and development; refining and petrochemical marketing; and natural gas storage, supply and marketing, to safeguard national energy security.



In November 2021, Sinopec signed procurement agreements worth US\$41.5 billion with 34 partners from 14 countries and regions at the 4th China International Import Expo.

## Contributing to China's efforts to become a manufacturing power

Sinopec has taken major equipment localization as an important move to meet its responsibilities as a central enterprise; shoulder its social responsibility; and ensure national energy, technology and economic security. To do this, Sinopec follows the "positive, safe, advanced, and reliable" approach to help tackle key problems in major equipment localization; contributing to China's efforts to transform from "a large manufacturing country" to "a manufacturing power".

In 2021, Sinopec sorted out the "bottlenecks" in the imported goods and materials sector; checked imported major equipment; key materials and core components in service; and developed targeted programs for homegrown alternatives. We also implemented a large-scale mode to tackle hard-nut problems in science and technology; and partnered with key domestic manufacturers to work on 24 key projects with an R&D spending of 20 million yuan. We tapped the potential of cost reduction and cut cost and improved efficiency in equipment localization. By doing so, we saved 140 million yuan in procurement funds and shortened the delivery cycle by more than one third compared with imports of the same kind. Relying on the decentralized control systems developed for the Zhenhai and Hainan ethylene projects with an annual capacity of one million tonnes, we saved about 61 million yuan on imports, saving 38% of the capital. Moreover, the price of the adsorption separation program control valves of the homegrown PX device was only 15% of the imported ones.

As of now, Sinopec has localized major equipment and is ranked among the top central enterprises, making significant contributions to the development of the petrochemical industry and the transformation and upgrading of China's equipment manufacturing industry. By the end of the 13th Five-Year Plan period, 92% of Sinopec's oil and gas exploration and development equipment was domestically produced, versus the 94% localization rate for its refinery equipment with an annual capacity of 10 million tonnes, and 87% for ethylene equipment with an annual capacity of one million tonnes.

## Feature

### Working for comprehensive energy service station to meet customers' diverse needs

With a growing number of private cars amid the expanding new energy vehicle industry, consumer demands for gas stations are becoming increasingly diverse. With the strategic goal of "developing into a modern integrated energy service provider", Sinopec has intensified efforts to improve energy supply patterns; and enhance its cross-over transformation featuring non-oil goods and services. Sinopec, which is striving to transform from conventional, single-product services to one-stop, diversified services, is developing a comprehensive energy service station concept providing oil, gas, hydrogen, and electricity services to satisfy customer demands for higher quality, contributing to the development of a high-value business ecosystem focusing on people, cars and life services.

#### Extended reading:

The comprehensive energy service station is an attractive, one-stop, integrated service platform that provides services in the "3 + 3 + 4" mode, namely no fewer than three functions for both energy replenishment and basic services; and no fewer than four functions for auxiliary services.



### Facilitating energy replenishment

Sinopec, which has the largest and most complete oil (gas) stations and convenience store network in China, has accelerated its transformation and upgrading, and has established a comprehensive energy service network through continued improvement in service content and experience, providing customers with oil, gas, hydrogen and electricity supply as well as automobiles, restaurants, convenience stores and other services. As of March 2022, Sinopec had built 76 hydrogen fueling stations, 1,322 charging stations, 83 battery swapping stations and 1,351 distributed photovoltaic power stations.

#### Some of the comprehensive energy service stations built by Sinopec

Qiuqing Park Oil Station in Hohhot, Inner Mongolia, Sinopec's first wind energy and photovoltaic power generation-based smart gas station, was completed in July 2021, making it an integrated operation ecosystem featuring "smart logistics platform + vehicles + charging and battery swapping + service package + operation + after-sales services".

Sinopec Nanning Guangxi Petroleum Xinyang Station, the country's first comprehensive energy station integrating oil, gas, hydrogen, electricity, photovoltaic power generation, industrial culture center and other functions, was completed and put into operation in September 2021.

Sinopec Guangdong Petroleum Dongming Road 3 Integrated Energy Service Station, the first integrated energy fueling station in the Guangdong-Hong Kong-Macao Greater Bay Area, was put into operation in November 2021, integrating multiple energy supply services such as fueling, hydrogen refilling, recharging and photovoltaic power generation.

Sinopec Guangdong Petroleum Guangzhou Jinlong Comprehensive Energy Service Station, Sinopec's 1,000th recharging and battery swapping station and the 1,000th distributed photovoltaic power station, was put into operation in December 2021, marking the attainment of our annual goal of "double 1,000th" such stations ahead of schedule.

### Convenient basic services

Sinopec offers convenience stores; automobile services; advertising; catering; coffee; Hailong Fuel Booster; exhaust gas treatment liquid refilling. In 2021, there were 28,000 Easy Jet convenience stores. A total of 8,993 automobile service outlets were developed, and 120 million car washes were done. Also, 12 new international well-known brand restaurants and 236 new regional brand restaurants were added, with a total of 62 and 1,341 outlets, respectively. Besides, 37 Easy Joy cafes were added, with 48 outlets in operation.



Anhui Wuhu Petroleum Mayiniao Integrated Energy Smart Service Station has introduced intelligent robots in convenience stores to provide services such as reception, consultation, ushering, and ordering, as well as Easy Joy freshly ground coffee

### Caring support services

Sinopec, which is committed to providing top customer services, has developed insurance and finance; retail; e-commerce and other businesses at its integrated energy service stations, allowing its consumers to benefit from more services. By the end of 2021, we had developed proprietary brand products such as Easy Joy Tibet Glacial Water; Changbaishan Spring; Oulu Paper; and Laimao Liquor to meet consumer needs. And we had established the "Easy Joy International" cross-border e-commerce platform to serve demand for global good products; launched more than 10 smart payment methods, like "one-click fueling", simplified payment and flash payment; opened up a new ecosystem of smart retail; and public welfare services including "The Gas Station That Cares -- A Better Road Home", "Drivers' Home" and "Love Station".



New image of Sinopec's integrated energy station

# Better life and improvement of people's wellbeing

## Government calls

Efforts should be made to support the people's role in the country; respect their pioneering spirit; follow a people-centered development approach; and safeguard social fairness and justice. We should strive to address inadequate and unbalanced development to meet people's urgent needs; ensure their fundamental interests, and unite and lead the Chinese people of all ethnic groups in working for a better life.

— Resolution of the CPC Central Committee on the Major Achievements and Historical Experience of the Party over the Past Century

## Sinopec's actions

Serving the overall development through tax payment

**76**

Protecting lives and health through pandemic response

**76**

Improving people's wellbeing through public welfare and charity

**78**

Feature: "The Gas Station That Cares - A Better Road Home" through 10-year dedication

**84**



SDGs



## Serving the overall development through tax payment

Tax revenue is the cornerstone of national governance and an important guarantee for steady economic growth. Sinopec follows tax laws and regulations, and makes tax payment in good faith. In 2021, we realized 341.8 billion yuan in taxes and fees, contributing to promoting national defense; science; education; culture; health and other public services, advancing national economic development and social stability, and working for common prosperity.

Taxes and fees (100 million yuan)	
2019	3,122
2020	2,977
2021	3,418

## Protecting lives and health through pandemic response

Amid the response to the COVID-19 in 2021, Sinopec implemented the guidelines of General Secretary Xi Jinping as well as the arrangements of the CPC Central Committee and the State Council. Sinopec followed a people-centered approach, and carried out measures for pandemic prevention and control; cared for employees at home and abroad; and ensured the supply of materials for pandemic response, thus delivering good outcomes in keeping payrolls and operation stable. Besides, our support for pandemic prevention and control at local levels highlighted our sense of responsibility as a central enterprise.

### Targeted arrangements

In 2021, the CPC Leading Group of Sinopec arranged to communicate with front-line officials and employees via video link; and stressed on the need to ensure production safety amid the pandemic response to safeguard lives and health. In March, we worked on pandemic response, creating a favorable environment for the convening of the NPC and CPPCC sessions. On July 30 and August 6, we issued two emergency notices on strengthening pandemic prevention and control. At the end of December, we published notices to address the pandemic around New Year's Day and the Spring Festival, cementing the barriers for pandemic prevention and control.

### Stabilizing production

Amid the pandemic in early 2021, more than 7,600 employees worked at over 1,600 gas stations of Hebei Petroleum. Also, more than 1,600 employees at Sinopec Shijiazhuang Refining & Chemical Company, located in a lockdown area, ensured the smooth production. In July, with the outbreaks in Nanjing, Yangzhou and other cities in Jiangsu, Jiangsu Petroleum; Jinling Petrochemical; Yangzi Petrochemical; Sinopec Nanjing Chemical Industries; Sinopec Chemical Commercial Holding Company Limited, Jiangsu Branch; Sinopec East China Petroleum Bureau; Jiangsu Oilfield; Sinopec Yizheng Chemical Fiber and other enterprises responded to the pandemic challenge, achieving zero infection and stable production and operation. In early December, during the 13-day lockdown amid the outbreak in Zhejiang and other provinces, Zhenhai Refining & Chemical, located in the lockdown area, ensured stable operation and zero infections; and Zhejiang Petroleum saw no infections among its 17,000 employees and normal operation of more than 2,000 gas stations. In 2021, enterprises in Guangdong, Northeast China and Fujian, as well as enterprises in the affected areas, such as Yunnan Petroleum; Anhui Petroleum; Hunan Petroleum and Shaanxi Petroleum, launched emergency plans for pandemic prevention and control, while focusing on production, operation, and oil supply. With the growing demand for medical masks and protective suits, Yizheng Chemical Fiber; Shanghai Petrochemical; Zhongyuan Petrochemical and other companies increased raw materials' production and supply.

Hebei Petroleum	early 2021	1,600+	gas stations kept opening
Zhejiang Petroleum	early December 2021	17,000	employees were found no infections

## Supporting local pandemic response

Sinopec has worked hard to support local pandemic prevention and control. Amid the outbreak in Guangzhou in June, 279 gas stations of Guangzhou Petroleum operated around the clock, ensuring that the city's operations, livelihoods and necessities were catered to, by providing fueling and non-oil product sales. In July, during the outbreak in Nanjing, the Jinling Petrochemical Youth Jinling Volunteer Service Team participated in the volunteer services at nucleic acid testing sites in the Nanjing Economic and Technological Development Zone. Nanjing Petroleum provided 7,000 medical masks; 3,800 pairs of gloves; N95 masks; disinfectants; thermometers and other materials to support the pandemic response in the high-risk areas. Also, more than 200 gas stations in Nanjing ensured supplies; and nine key gas stations provided green channels and special fueling machines for medical and police vehicles.

Guangzhou Petroleum	June	279	gas stations operated around the clock
Nanjing Petroleum	July	200+	gas station ensured supplies

In the context of the severe and complex overseas pandemic, Sinopec adjusted its prevention and control priorities, intensified its efforts, improved measures, and implemented the "3345" guideline. We strengthened our overseas pandemic response system, mainly focusing on regular prevention and control; material supply and logistics support; emergency response; derivative risk prevention; work shifts and staggered holidays, and stabilized payrolls. We also enhanced major links such as front-end and remote control of cross-border flow of personnel as well as vaccination. In so doing, we strengthened overseas medical security and emergency capacity building; implemented video inspection as well as supervision and inspection; and coordinated the overseas pandemic response and business development. In 2021, our overseas projects saw no infections, and overseas Chinese employees were fully vaccinated. In addition, we ensured work shifts and staggered holidays for overseas employees through multiple channels such as independent charter flights; joint charter flights and commercial flights, thus supporting the smooth conduct of our international operations.



A worker at the Sinopec Suzhou Petroleum Huani Gas Station refuels a medical vehicle

# Improving people's wellbeing through public welfare and charity

Sinopec is involved in public welfare and charity, and implements the social contribution system focusing on rural revitalization; social welfare; public welfare through proprietary brands; social service and environmental protection public welfare programs. We promote people's wellbeing through our diverse public welfare and philanthropic programs.

## Social welfare

- Rural revitalization**
  - assistance through industry
  - education
  - consumption
  - employment
  - health programs
- Social welfare**
  - sinopec Lifeline Express
  - "The Gas Station That Cares – A Better Road Home"
  - "Drivers' Home"
  - "Love Station"
- Public welfare through proprietary brands**
  - public welfare through proprietary brands including the Great Wall Lubricant and Easy Joy
- Environmental protection public welfare programs**
  - our affiliated companies have implemented environmental protection public welfare programs
  - carried out in Hong Kong the "cleaning beach brand communication campaign"
  - the program for improving people's awareness for marine protection
- Social service**
  - rescue and disaster relief
  - law dissemination
  - service for farmers
  - volunteer services

For many years, Sinopec has been implementing the "Sinopec Lifeline Express; "The Gas Station That Cares – A Better Road Home"; "Drivers' Home"; "Love Station" and other public welfare programs to improve people's wellbeing.



The Sinopec Lifeline Express

- **Sinopec Lifeline Express**
- Accumulatively entered **18** provinces (autonomous regions)
- 41** service points
- Cure poor cataract patients for free more than **50,000**

## Sinopec Lifeline Express

Since 2004 Sinopec has participated in the Health Express philanthropic program. In 2007, it donated 30 million yuan to build the Sinopec Lifeline Express, which is dedicated to providing free eye disease treatment services in the Chinese mainland. This is the first and only mobile ophthalmic hospital dedicated to charitable medical activities donated by a mainland-based company in China. Known as the mobile eye hospital, it is an important national project for cataract prevention and treatment.

The Sinopec Lifeline Express enters three poverty-stricken areas every year, and treats 3,000 people on average; with a success rate of over 99.9%, it is comparable to any Grade-A tertiary hospital in the first-tier cities in China. In 2021, the Express provided free assistance to 2,808 impoverished cataract patients in Luoyang, Henan province; Haidong (Haixi), Qinghai province; and Linyi, Shandong province, marking its fourth visit to Henan and Qinghai. It benefited a total of 3,149 people in Henan and 3,457 in Qinghai.

Over the past 18 years, Sinopec has donated a total of 184 million yuan to the Health Express undertaking to build 23 cataract treatment centers as the title sponsor; offered training to local ophthalmologists; and provided the latest ophthalmic examination equipment, among others, leaving parked train hospitals for locals. The Sinopec Lifeline Express has travelled to 41 service sites in 18 provinces (autonomous regions) across the country, helping more than 50,000 impoverished cataract patients regain their eyesight and giving the whole family hope of moving out of poverty.



The Sinopec Lifeline Express helps its 50,000th cataract patient (middle) regain eyesight in Linyi, Shandong

## "Drivers' Home"

In 2021, Sinopec implemented important guidelines of the CPC Central Committee on new employment forms and the platform economy; and the labor competition of "10,000 Stations in 100 Cities·Excellent Service". We accelerated the standardization of the "Drivers'Home", and built the "2+7+X" service system to improve service quality and create a "home on the road" for truck drivers. By the end of 2021, Sinopec had 2,178 "Drivers' Homes" in service in 31 provinces and municipalities (autonomous regions) across the country, delivering services to drivers. We plan to build 5,000 such homes during the "14th Five-Year Plan" period, forming a service network covering the whole country.

### "2+7+X" service standards

#### Two basic services:

Fueling and shopping

#### Seven core services:

Safe parking; lounge; catering; water filling; shower room; laundry area and drying area.

#### X- multiple supporting services:

Self-service car wash; car repair; road rescue; free WiFi; mobile phone charging, etc.



Sinopec's 10 "Drivers' Homes" received the 2021 National "Drivers' Home" AAAAA Rating

## Love Station

In line with the requirements of the Guidelines of All-China Federation of Trade Unions on Regulating the Work Related to the Outdoor Labor Service Sites of Trade Unions, Sinopec has integrated its public service brands such as Sanitation Station, Caring Service Station and Outdoor Station into a Love Station with unified standards and "7+X" services in 2012, in order to provide better services to sanitation workers, taxi drivers, and traffic police, as well as online car-hailing drivers, couriers, and take-out deliverymen. These efforts demonstrated Sinopec's desire to serve the people with practical actions. By the end of 2021, Sinopec had built 3,520 Love Stations, and planned to add 8,000 during the "14th Five-Year Plan" period, making full use of the platform's advantages to enable more social groups to benefit from its development.



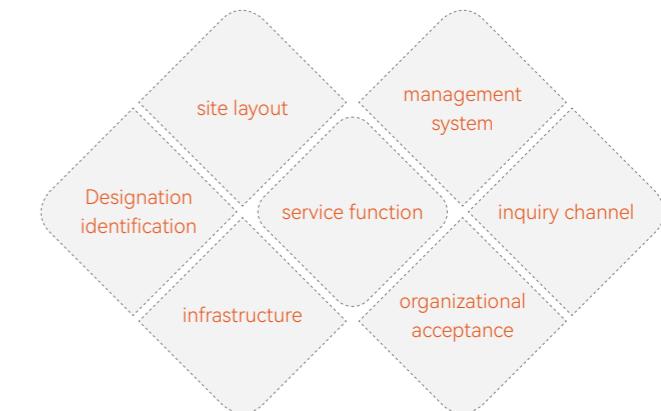
Sinopec had built Love Stations

**3,520**

Sinopec planned to add Love Stations during the "14th Five-Year Plan" period

**8,000**

### Seven unified standards



### "7 + X" services

**Seven basic services:** Meals storage; food heating; hot water supply; reading area; mobile charging; medical kit; cooling and heating.

**X-multiple services:** Providing supporting services such as policy publicity; legal aid; and takeaway collection.

## Public welfare through proprietary brands

Sinopec supports and encourages its proprietary brands to participate in social welfare programs and help enhance brand reputation and corporate influence.

For many years, Great Wall Lubricant has implemented the "Chinese Astronauts Experience Camp"; "China Space Cheering Group" and "Happiness 1+1" programs, promoting the space exploration spirit; boosting people's enthusiasm for space exploration; and supporting China's space industry with practical actions.

In 2021, Sinopec Easy Joy implemented its "Micro Hope Plan", a public welfare program dedicated to helping rural teachers and supporting rural education through such activities as "My Teacher and I" drawing; helping 2,021 rural teachers to realize their dreams; and providing rural teachers with an opportunity to appreciate the Winter Olympics.



In 2021, Sinopec Easy Joy launched the "Micro Hope Plan" themed on "Helping rural teachers to realize their dreams"; implementing public welfare activities featuring aspiration, illumination, calling and realizing dreams

## Social service

### Rescue and relief

In 2021, after earthquakes struck Dali in Yunnan province; Guoluo Prefecture of Qinghai province; and Luzhou in Sichuan province, Sinopec launched an emergency rescue plan and had equipment checked for risk prevention. We worked with local governments; opened up green channels for oil supply; and dispatched and donated relief materials.

In July, amid the downpours that hit many parts of Henan province, Sinopec dispatched more than 500,000 liters of gasoline and diesel to ensure the supply of fuel for flood relief. Five national emergency rescue teams rescued more than 3,700 people; 9,333 employees in our enterprise in the province stuck to front-line production for self-rescue; we donated 50 million yuan to the disaster-hit areas in Henan, and 24 affiliated petrochemical enterprises, along with our partners, officials and employees, donated 5.62 million yuan. Besides, Hubei Petroleum; Guangxi Petroleum; Sinopec Easy Joy and other businesses donated material to help Henan tide over the difficulties.

### Service for farmers

The No 1 Central Document for 2021 highlights food security. To ensure agricultural production and farm machinery oil supply, Sinopec has launched targeted policies and special offers; provided green channels for fueling; as well as dedicated fueling machines. We offered free door-to-door delivery of fuel and fertilizers; and invited agriculture experts to instruct farmers on planting schemes and pest control; ensuring farm machinery oil supply during "spring ploughing"; "harvesting, planting and field management in summer"; and "harvesting, ploughing and sowing in autumn".

### Service for major events

Sinopec ensured fuel and daily supplies for service vehicles and important materials transport vehicles during major events such as the NPC and CPPCC sessions; May Day; CPC centenary celebrations; National Day, and the sixth plenary session of the 19th Central Committee of the CPC. In addition, we supported some events like the 14th National Students Games; the 14th Annual Meeting of the New Champions; and 2021 "SCIP Plus" Green Chemistry and Chemical Engineering Innovation and Entrepreneurship Contest, maintaining our relations with local governments.

### Law popularization

Sinopec has participated in law popularization by supporting the China Legal Aid Foundation's "1+1" legal aid volunteer campaign for 10 years; and providing legal aid to more than 10,000 people in the impoverished areas of central and western China. Besides, we have implemented the "Sinopec legal aid" Constitution quiz for seven consecutive years to raise public awareness of the Constitution, and promote the spirit of the Constitution.



The Sinopec Youth Volunteer Service Team was established in March 2021

### Volunteer services

Sinopec promotes the socialist core values and the volunteerism of "dedication, friendship, mutual aid and progress"; advances the organizational, mechanism and the brand building for youth volunteer services; and guides the youth league organizations at all levels and the young people in the petrochemical sector to be devoted to Chinese youth volunteer services, highlighting the "petrochemical business card" in youth volunteer services. In March 2021, the Sinopec Youth Volunteer Service Team was established, and all affiliated businesses set up service branches, recruiting young people in the sector to register as official members through zyz.org.cn, a platform for volunteer services; and encouraging team members to contribute to rural revitalization; the Winter Olympics; community development; public welfare; pandemic response; and other service programs. As of December 2021, we established 1,422 youth volunteer service organizations within our system; and more than 79,000 registered volunteers contributed a total of over 130,000 hours of volunteer services.

- Established youth volunteer service organizations

**1,422**

Sinopec youth registered as volunteers

**79,000**

A total of hours of volunteer service

**130,000**



Since the inception of the "Starry Sky" Volunteer Service Team in 1996, Sinopec Shanghai Petrochemical has carried out in communities and schools volunteer service programs, such as village road lighting; riverway cleaning; regular maintenance; green belt construction, and dustbin donation, addressing problems faced by the local people

### Environmental protection public welfare programs

Sinopec takes up environmental protection public welfare programs as part of its efforts to implement the major strategy of promoting ecological conservation and building a beautiful China. We work to make our country clean and beautiful through voluntary tree-planting; cleaning beach campaigns, and other programs.



Employees from Sinopec's businesses in Shaanxi province plant trees

## Feature

### "The Gas Station That Cares - A Better Road Home" through 10-year dedication

Around the Spring Festival, migrant workers join the Spring Festival transportation rush, yearning for family reunions despite cold weather and long distances. Sinopec launched "The Gas Station That Cares – A Better Road Home", a large-scale public welfare program for migrant workers returning home by motorcycle or in minibus in 2013, and keeps this program in service, providing free services, including fueling; porridge; ginger tea; lounges; and baby care rooms.



#### 10-year dedication

In the past 10 years, more than 50,000 volunteers have benefited more than 4.4 million motorcyclists; and more than 55 million people going home during the Spring Festival. After 10 years of operations, The Gas Station That Cares – A Better Road Home has become a well-known public welfare brand in China, and won honors such as Superior Achievement in Branding and Reputation Awards; The Gold Standard Award for Corporate Citizenship; and the China Youth Volunteer Service Project Silver Award, among others.



"The Gas Station That Cares – A Better Road Home" large-scale Spring Festival campaign

- 2013 Sinopec worked with the Communist Youth League of Guangdong Province to turn **178** gas stations in the province into "The Gas Station That Cares – A Better Road Home", providing "**6+X**" free services to migrant workers.
- 2014 Sinopec provided migrant workers returning home by motorcycle or minibus with free services like fueling; hot water; ginger tea; car repair; and Spring Festival "Easy Joy" lucky bags.
- 2015 For the safety of migrant workers, we offered free items like reflective vests, raincoats, knee pads, and motorcycle driving accident insurance.
- 2016 Sinopec upgraded the "**6+X**" free services to the "**1+10+X**" services, expanding free fueling available to minibus drivers. We connected **218** gas stations in the three provinces into **8** routes for migrant workers to return home.
- 2017 We opened up **15** free "caring bus" routes with focus on special groups such as the elderly, children and pregnant women; helping migrant workers return home safely.
- 2018 Sinopec joined hands with Guangdong Post EMS to provide free luggage mail service for migrant workers returning home by motorcycle or minibus, easing their burden and improving safety.
- 2019 Sinopec coordinated **248** gas stations in the four provinces to help people return home. In particular, our caring buses for builders of key projects helped them return home early for family reunions.
- 2020 We joined forces in the Guangdong, Guangxi, Jiangxi, Guizhou and Hunan provinces to share the achievements of poverty alleviation and provide custom-made New Year goods, covering an area of nearly **1** million square kilometers.
- 2021 Sinopec improved the "**1+10+X+1**" free services and added pandemic response safety services, providing free materials for pandemic prevention; and free delivery of Spring Festival purchases for migrant workers who stayed in Guangdong for the New Year and sticking to their posts, free mailing of New Year goods, and sending love home.
- 2022 Sinopec coordinated **243** gas stations to provide people who stayed put and those who worked during the Spring Festival with "**1+10+X+1**" free services, including complimentary Easy Joy lucky bags; and free delivery of Spring Festival purchases. We also delivered meals to truck drivers and organized a reunion dinner for outdoor workers.

#### Innovative services

##### "1+10+X+1" free services

Sinopec continued the "**1+10+X+1**" services, providing nearly 20 kinds of services, such as simple healthcare for those who traveled, stayed put and worked during the Spring Festival.

<b>1</b>	<b>10</b>	<b>X</b>	<b>1</b>
Providing a special group of women, children, and the elderly with maternal and infant care, assistance and other special care services.	Offering convenient basic free services such as emergency medicines; hot water (ginger decoction and tea); hot food; rechargers; hand warmers; simple service kits; fuel drums; food heating equipment; route consultation, and road rescue.	Providing personalized services like replacement of engine oil; free WiFi; and urban travel maps.	Providing free masks, hand sanitizers and other anti-epidemic materials to those in need; disinfecting and cleaning gas stations on a regular basis; and promoting contactless payment methods such as "one-click fueling" and simplified payment.

#### Complimentary "luck bags" and "food parcels" for the Spring Festival

Sinopec worked with 15 enterprises including Easy Joy and Great Wall Lubricant to offer 10,000 free "lucky bags" to migrant workers who stayed put in Guangdong province for the Spring Festival; and 35,000 free "food parcels" to truck drivers who remained at work during the festival. Meanwhile, the 824 Drivers' Homes and 119 Love Stations in the province operated around the clock during the festival, providing sanitation workers, delivery men, and other outdoor workers with breakfast, hot drinks, lounge areas, and other services.



#### Free delivery of Spring Festival purchases

Due to the pandemic, many migrant workers chose to work and stay put during the Spring Festival. Sinopec worked with EMS to set up outlets for free mailing service at 20 gas stations in seven cities, including Guangzhou and Foshan, offering 10,000 places for free delivery of Spring Festival purchases. Successful applicants could mail 20 kilograms for free. So far, "The Gas Station That Cares -- A Better Road Home" has provided more than 50,000 free deliveries.

# Opening-up to build a better world together

## Government calls

Adhering to the principle of achieving shared growth through consultation and collaboration, China has promoted high-quality development of the Belt and Road Initiative (BRI). We have advanced a large number of cooperation projects with significant implications for fueling economic development and improving people's lives in countries along the BRI routes, and worked to build the BRI into an initiative of peace, prosperity, openness, green development, and innovation that brings different civilizations closer, and a widely welcomed public good and platform for international cooperation in today's world.

— Resolution of the Central Committee of the Communist Party of China on the Major Achievements and Historical Experience of the Party over the Past Century

## Sinopec's actions

Working on production capacity to promote economic development

**88**

Safe and environment-friendly products to protect the earth

**92**

Local employment enhances cultural fusion

**94**

Community co-construction builds a bridge of friendship

**95**

Feature: Join hands to build a better Hong Kong based on the Belt and Road Initiative

**96**



SDGs



# Working on production capacity to promote economic development

Sinopec, which is keeping in line with the trend of economic globalization and China's opening up to the outside world, has accelerated its pace of "going global" through its "Belt and Road Initiative" (BRI) work. In the process it has given full play to its advantages in oil and gas exploration and development; petroleum and petrochemical engineering technical services; trade of oil and chemical products as well as equipment and materials; warehousing investment and other fields; and engaged in mutually beneficial cooperation with various countries and regions for the sustainable development of the global economy and society. In 2021, Sinopec had 277 overseas projects in 66 countries and regions.



	Worldwide	Along the Belt and Road
Oil and gas field	<p>Working on <b>46</b> oil and gas exploration and development projects in <b>23</b> countries</p> <p>Overseas oil and gas production of <b>36.43</b> million tonnes of oil equivalent on an equity basis</p>	<p>Working on <b>32</b> oil and gas exploration and development projects in <b>17</b> countries along the Belt and Road</p> <p>Overseas oil and gas production of <b>24.28</b> million tonnes of oil equivalent on an equity basis</p>
Refining and chemical fields	<p>Overseas oil refining capacity of <b>7.5</b> million tonnes/year</p> <p>Overseas storage capacity of <b>1.36</b> million cubic meters</p> <p>Overseas lubricating grease production capacity of <b>80,000</b> tonnes/year</p> <p>Overseas nitrile rubber production capacity of <b>10,500</b> tonnes/year</p>	<p>Investing in <b>8</b> refining and warehousing projects in <b>5</b> countries along the Belt and Road</p> <p>A combined investment of about US\$<b>11.771</b> billion</p>
Engineering field	<p><b>339</b> petroleum engineering service contracts in <b>35</b> countries</p> <p><b>105</b> refining engineering service contracts in <b>15</b> countries</p>	<p><b>179</b> petroleum engineering service contracts in <b>16</b> countries along the Belt and Road</p> <p><b>104</b> refining engineering service contracts in <b>14</b> countries along the Belt and Road</p>
International trade	<p>Crude oil trade volume of <b>322</b> million tonnes</p> <p>Trade volume of refined oil of <b>50.62</b> million tonnes</p> <p>LNG trade volume of <b>20.84</b> million tonnes</p>	<p>Engaging in crude oil trade with <b>26</b> countries along the Belt and Road; imported <b>189</b> million tonnes of crude oil</p> <p>Engaging in trade of refined oil with <b>13</b> countries along the Belt and Road; and the trade volume of refined oil reached <b>8.18</b> million tonnes</p> <p>Engaging in trade of materials, equipment and chemical products with <b>23</b> countries along the Belt and Road</p>

## Case study

### Sinopec engages in in-depth cooperation with Russia in energy and chemical industry

Tapping its advantages in the integrated industry chain of upstream, midstream and downstream, Sinopec has had in-depth cooperation with Russian companies in oil and gas exploration and development; chemical project construction and chemical product trade; refining and chemical engineering, and petroleum engineering to achieve mutual benefits.

#### Model of China-Russia energy cooperation -- UDM project

In August 2006, Sinopec and Rosneft jointly acquired and operated the Udmurtia Petroleum Corp. (UDM), which is the largest Sino-Russian oilfield joint venture project in production, known as the "Model of China-Russia Energy Cooperation". So far, the oilfield has produced more than 89 million tonnes of oil, contributing about 13.5% of the local financial budget every year.

#### The world's largest polymer plant -- Amur Gas Chemical Complex (AGCC) project

In June 2019, Sinopec and SIBUR signed a contract on the main conditions for the establishment of the future joint venture, which would invest in a large-scale chemical complex project (Amur Gas Chemical Complex) in the Amur region of the Russian Far East. With a designed capacity of 2.3 million tonnes/year of polyethylene and 400,000 tonnes/year of polypropylene, it will become the world's largest polymer plant. When completed in 2024, it will extract valuable feedstocks from commercial natural gas and produce multi-billion-dollar worth popular products, increasing local non-resource exports.



### Case study | Engineering machinery completed for the Al-Zour refinery project in Kuwait

The Al-Zour Refinery Project, located in the Al-Zour area in eastern Kuwait, is a national key construction project under the Belt and Road Initiative. The refinery project is designed to have a processing capacity of 31.5 million tonnes/year and will be the largest refinery in the Middle East after completion. Sinopec Guangzhou (Luoyang) Engineering Co. Ltd. of the Sinopec Engineering Group (SEG) has worked closely with all parties involved in the project to give full play to the overall advantages of the consortium. After 49 months of work, all units were completed in December 2019. It is expected that all installations can start joint commissioning in June 2023.

During the construction phase of the project, all the people of the project department worked to ensure the timely completion of the work. They were recognized by the project owners and partners. The project showcases the positive image of Sinopec on the international stage.



### Case study | YASREF, a pearl in the desert

Yanbu Aramco Sinopec Refining Company Ltd. (YASREF) is a joint venture between Sinopec and Saudi Aramco (holding 37.5% and 62.5% of the shares, respectively) with a combined investment of US\$8.6 billion. On January 20, 2016, Chinese President Xi Jinping and King Salman bin Abdulaziz Al Saud of Saudi Arabia attended the launch ceremony of YASREF. Since starting operation, the refinery boasts a crude oil processing capacity of 400,000 barrels per day (20 million tonnes per year), making it one of the world's largest refineries. The project supports the economic transformation and upgrade of Saudi Arabia, and is a demonstration of China-Saudi Arabia cooperation in the energy field.



#### Daily capacity of YASREF

Diesel	(barrel)	287,000
Gasoline	(barrel)	105,000
Petroleum coke	(tonne)	6,200
Sulphur	(tonne)	3,000
Propane	(barrel)	7,500
Butane	(barrel)	14,000

### Case study | RAPID residual oil hydrogen project handed over to Malaysia

The refinery and petrochemical integrated development (RAPID) residual oil hydrogenation project in Malaysia is located in the Pengerang, southern Johor. Sinopec Engineering Incorporation (SEI) won the bid in August 2014, and served as the EPC general contractor for the project. The contract included building a 15 million tonnes/year crude distillation unit (CDU); an 8.8 million tonnes/year atmospheric residue desulphurization (ARDS) unit; and a hydrogen collection and distribution unit (HCDU), and a fuel oil system. Due to factors such as the Covid-19 pandemic, the project delivery was delayed. All the work has now been completed and operations are set to start.

During the project execution, SEI applied the multi-subject collaborative design platform, promoted the all-subject in-depth 3D model design for the first time, and realized the digital delivery of the factory. It leveraged Sinopec's capability in global resource integration and deployment, with which it did global procurement for more than 500 units/sets major equipment from 22 countries on four continents. Besides, the project involved more than 40 manufacturers and suppliers in China, with a contract value of about US\$88 million. While creating a new "business card for the country" for refining and chemical engineering technology, the project enabled China's engineering construction sector and equipment "Made in China" to enter the global market hand in hand.

### Case study | Breakthroughs in lubricating grease trade in Nigerian market

In August 2021, Sinopec International Petroleum Service Corporation (Sinopec Service) Nigeria Limited delivered a total of 10,160 barrels of Sinopec grease and lubricants to Zhongyu gravel quarry in Nigeria and the gold mine project of China North Industries Corporation (NORINCO), entering the local mining sector. This marks a breakthrough in the lubricant and grease trade business for Sinopec in the Nigerian market.

Since the launch of the lubricating oil trade project in 2019, the Sinopec Service Nigerian Limited has communicated and coordinated with Sinopec Lubricant Singapore Company, fully understood the needs of the project owners, proactively provided solutions, and won the recognition of the owners with high-quality services. As of August 2021, the company's lubricating oil trade had increased sales in the Nigerian market year by year, showing a good development momentum.

# Safe and environment-friendly products to protect the earth

Sinopec abides by international and local laws and regulations on production safety and occupational health. It makes efforts to protect the safety of employees and enterprises by establishing a production safety management system; ensuring investment in safety improvement; preventing and controlling safety risks; conducting safety training; protecting the physical and mental health of employees; and improving overseas public safety management among other things. It applies the green and low carbon concept in overseas business operations; responds to climate change and protects the earth by strengthening environmental management and control; engages in green production; implements green construction; and protects the environment and biodiversity.

## Case study

### Sinopec establishes green and eco-friendly brand by optimizing green production technology

Ecuador, a South American country with a forest coverage rate of over 68%, is known as the "lungs of the earth". The government imposes strict requirements on safety and environmental protection; and PetroEcuador requires that the drill cuttings reinjection technology must be used to treat the cuttings and mud sewage in the drilling and production in the rainforest area. Also, the safety and environmental protection performance of the service provider is to be used as one of the bases for expanding cooperation in the future.

In the beginning, the Chinese employees of Ecuador project of the Sinopec East China Oil Engineering Co. Ltd. only tried reinjection and grinding, but neglected the relationship between the reinjection rate and equipment wear and formation digestibility, resulting in frequent problems such as pipeline plugging and low grinding efficiency. Later, faced with the requirements given by PetroEcuador, they optimized the cuttings grinding and particle screening process, and increased the efficiency by improving related equipment. A project engineer said: "Now we can process the cuttings, waste slurry and sewage from 3 drilling teams at the same time; and have developed methods such as 'separating the dry and the wet'; and 'sieving slurry and cuttings together', which greatly improves the work efficiency and protects the local rainforest."

## Case study

### SIPC Canada enjoys high yield in environment protection and benefits with carbon emission reduction efforts

Canada levied a corporate carbon tax since 2019, with the tax rate rising year by year. To minimize the impact of carbon tax on its benefits, Sinopec International Petroleum Exploration and Production Corporation (SIPC) Canada promoted the transformation and development of clean energy, and established a "clean energy working group" in early 2021. Now, the group takes measures to reduce carbon emissions, which not only helps the company increase efficiency, greatly reduce the carbon tax expenditure of SIPC Canada, and also fulfill Sinopec's commitment to carbon emission reduction.

SIPC Canada applied for and took the lead in joining the "Technology Innovation and Emission Reduction" project established by the Alberta government; screened various types of emission equipment at oilfield sites; and upgraded 433 high-exhaust air pressure controllers to low-exhaust devices. Since the implementation of the optimization efforts in 2020, it has reduced carbon dioxide emissions by 53,228 tonnes, which is equivalent to nearly 11,500 cars being taken off the roads for a year. Meanwhile, it has achieved the goal of reducing the cumulative emissions in 2021 by 10% compared with the previous year, ahead of local counterparts. SIPC Canada has been recognized by the local government for its emission reduction effects while reducing carbon tax expenditures of about CAD 4.5 million. Besides, Bluesource agreed to invest nearly CAD 1 million in optimizing and upgrading SIPC Canada's air-control system and compressor exhaust system. After the equipment upgrade, both parties can share the carbon credits from the government, which is expected to bring more than CAD 1 million worth carbon credits to each of the two parties in 2021 and 2022.



## Case study

### Sinopec Zhongyuan Engineering Company acclaimed in African market for its green construction practices

Over the years, the ZPEB0103 cementing team of the Africa Project Department of Sinopec Zhongyuan Oil Engineering Co. Ltd. Cementing Company has innovated and developed green technology; and implemented green construction and QHSSE management in an all-round way. It is on par with its international counterparts for the well cementing acceptability rate and excellence rate, and is highly acclaimed by investors and project owners in Africa.

In conventional cementing construction, the 1.5-tonne-bag of cement was manually opened and mixed with additives in the cement tank. Such a practice could lead to flying dust to pollute the air and affect the health of workers. To resolve the problem, the ZPEB0103 cementing team developed a cement hopper and a dust collector with tests and improvements over the years. The updated equipment not only effectively lowers the labor used and reduces the dispersion of cement dust, but also protects the environment.

After the well cementing, the on-site cleaning of the cement trucks involves connection and disassembly of pipelines and opening and closing of gates, which inevitably causes dispersion of cement dust or additives, and consequently pollution of underground water. So, the team optimized the pipeline disassembly process, and laid anti-seepage plastic sheets under all equipment to ensure zero spillage and zero contact with the earth.

## Case study

### SEG protects eco-system with "Civilized Marine Construction" Campaign in Saudi Arabia

Sinopec cares about the marine environment where the project is located, and has taken measures to protect the environment and biodiversity to create a clean and eco-friendly habitat for marine life. In August 2021, the fifth construction company of SEG, the project owner Saudi Aramco and its partners jointly carried out the "Civilized Marine Construction" Campaign near the Berri Oil and Gas Treatment Project, collecting and removing coastal waste and domestic garbage near the project. About 1 tonne of various types of waste and garbage was collected and removed, greatly reducing the impact on the marine ecosystem. Besides, this activity improved employees' awareness of environmental protection, and demonstrated the company's determination to further implement the Green Enterprise Campaign.

## Local employment enhances cultural fusion

### Case study SIPC promotes employee localization to facilitate occupational development

SIPC abides by the laws and regulations of the host countries, and has fulfilled the requirements on employment of locals, which promotes local economic and social development. As of 2021, SIPC's employee localization rate was 94%.

At the same time, through production practice and a complete training system, SIPC has cultivated a large number of local oil and gas exploration and development professionals and management talents, contributed to the local oil industry and economic development with advanced technology and experience; and promoted cultural exchanges between China and various host countries, winning respect and recognition of the governments and people of those countries.

- In 2021
- SIPC Kazakhstan organized training for **6,878** people.
  - SIPC Ecuador Andes had **5,986** employees participating in the training, with the total training hours of **39,541.5** man-hours.
  - SIPC Gabon had **3,097** employees trained.

### Case study Sharing Chinese classics with foreign employees

In January 2021, "Chinese Bookshelf", a project which aims to provide local readers access to Chinese books and culture, was opened in the Sinopec Tech Middle East LLC in Dhahran Techno Valley, Saudi Arabia. The project offers more than 1,500 paper books and a large number of e-books in Chinese, English and Arabic, covering various fields such as Chinese economy, literature, history, art and technology. "Chinese Bookshelf" presents the stories of China, providing a reading experience to local Saudi employees and readers, and allowing them to appreciate Chinese history, culture and art, and understand the civilization and progress of contemporary China. This promotes cultural exchanges and a mutual learning between China and Saudi Arabia and the two civilizations.



Chinese and Saudi employees dance together at a party



A Russian employee learns about Chinese cuisine from a Chinese chef

## Community co-construction builds a bridge of friendship

### Case study Sinopec supports infrastructure construction in Colombia

While promoting its own development, SIPC Columbia (Mansarovar) also supports the construction of public infrastructure, to integrate into the local area; develop it and contribute to it.

To meet the needs of local residents for transportation and safe drinking water, the SIPC Columbia (Mansarovar) energy project department has invested in the repair of local roads and participated in the construction of community water pipelines. It also helped the locals to build diesel generator power plants; donated beds to health centers; and provided hygiene kits to build a solid line of defense against the pandemic. Separately, SIPC Colombia NGEC Company has participated in the improvement of housing and farms in the communities around the oilfield. And after assessing the needs of the locals, it provided building materials to improve their living conditions. It also helped communities near the oilfield to install water purification devices.

### Case study Sinopec donates anti-epidemic materials to Sri Lanka for the second time

In June 2021, the Sinopec Fuel Oil Sales Corporation donated anti-epidemic materials to the Sri Lankan Embassy in China on behalf of Sinopec. This was the second time that Sinopec donated anti-epidemic materials to Sri Lanka since the outbreak of the Covid-19 pandemic. It put together the materials in only 4 days, and they included 7 oxygen generators, and 28,000 masks. In addition to the relief materials given to the Sri Lankan government, it also made a targeted donation to the front-line units of the customs and port authority of Sri Lanka.



Sinopec has joined hands with enterprises in UK for the Red Nose Donation Week for many years; and the funds raised are used for various relief projects in the UK and around the world

## Feature

### Join hands to build a better Hong Kong based on the Belt and Road Initiative

Hong Kong, located in the center of Asia, has the advantage of being backed by the Chinese mainland. Also, it is one of the world's most developed economies and the world's largest offshore RMB business center. Hong Kong is of great importance and plays an irreplaceable role in implementing the BRI and promoting the reform and opening-up of China.

Since the late 1980s, Sinopec has been determined to "integrate into Hong Kong and serve Hong Kong". So, it has built a functional platform for the joint construction of the "Belt and Road"; explored the Hong Kong market by leveraging Hong Kong's geographical advantages and economic status; and served Hong Kong's economic development; boosted livelihoods and supported undertakings for the public good. In the process, it has grown and made progress together with Hong Kong.

#### Diversified operations promote Hong Kong's economic prosperity

Sinopec is one of the major oil and gas suppliers in Hong Kong, and provides high-quality and sufficient energy products and services to Hong Kong residents around the clock, providing a stable supply of oil and gas energy. In keeping with its creed of high-quality development, Sinopec has developed an international trade in energy and chemical products; overseas fund management; self-operated insurance; investment and finance management and other businesses, to promote the economic and social development of Hong Kong; consolidate its status of "three centers" (centers for international trade, shipping and finance); and support the development of the country and the world in a faster and better way.

#### Serving people's livelihood

**54** oil and gas stations and **2** oil depots in Hong Kong.  
Tsing Yi Oil Depot has a storage capacity of **370,000** cubic meters, **11** berths and **34** storage tanks.  
Chai Wan Oil Depot is the only oil depot on Hong Kong Island, with a storage capacity of **4,500** cubic meters.

#### International trade

In 2021, Sinopec Chemical Commercial Holding Company Limited (SCCHC) and Hyundai COSMO (HCP) launched mixed xylene trading, with annual transactions of **100,000** tonnes.  
In 2021, Sinopec worked with its partners to export **10,000** tonne of methanol originating in the Middle East to India in response to the rising demand for methanol in India.

#### Overseas finance

Sinopec Insurance Limited provides insurance for Sinopec's projects in more than **20** countries and regions, shipping of over **1** billion barrels of crude oil as well as more than **20,000** dispatched employees.  
SIPC Hong Kong holds **17** overseas projects; and engages in investment and financing business relying on professionals and the international financial platform of Hong Kong.

#### Energy supply

Since entering the Hong Kong aviation fuel market in 1999, Sinopec Hong Kong has provided aviation fuel bunkering services to more than **50** airlines.  
Sinopec Hong Kong owns a fleet of bunkering vessels, providing high-quality fuel oil tanker bunkering services to well-known domestic and foreign shipping companies as well as ex-warehouse sales and wholesale of marine fuel oil for ships in Hong Kong.



The largest single oil depot in Hong Kong – Tsing Yi Oil Depot of Sinopec Hong Kong



Sinopec The Peak gas station, Hong Kong

#### Share a beautiful life

#### Local employment

#### Strengthen pandemic prevention and control

#### Devoted to public welfare and philanthropy



Scan the QR code to read: Sustainability Report of Sinopec in Hong Kong

#### Protect the green home

Sinopec has promoted the energy transformation in Hong Kong; innovated in, developed and promoted clean energy and green chemical products such as super gasoline and degradable plastics; implemented the Green Enterprise Campaign in depth; facilitated energy conservation and emission reduction; and promoted green and low-carbon development. It has also implemented public welfare activities for environmental protection; set up the Sinopec Charity & Hong Kong Beach and Country Park Concern Group; and organized a Coastal Cleanup for nine consecutive years. In July 2021, the event was upgraded to "Coastal Cleanup Brand Communication Action", aiming to build a beautiful Hong Kong and promote the harmonious coexistence of man and nature.

Sinopec, which follows the concept of "repaying the local area and contributing to the prosperity of the local economy", gives priority to hiring locals, college graduates and interns in Hong Kong, attracting outstanding talents. By creating a large number of jobs, Sinopec also pushes local talents to broaden their horizons and improve their abilities. This is done by selecting Hong Kong employees to work in the Mainland, overseas work, internships, training and other measures. In this way, it has cultivated many senior talents and skilled workers; and promoted the economic development of Hong Kong. In 2020, Sinopec had a total of 1,005 employees in Hong Kong, with 89% of them being Hong Kong locals.

In the face of the Covid-19 pandemic, all Sinopec enterprises in Hong Kong have worked together to fight the epidemic. They have taken the initiative to ensure the supply of oil and gas; donate materials; and ensure the supply of oil products and provide non-stop services. In 2020, Sinopec invested more than HK\$4 million (RMB3,254,400) in Hong Kong's pandemic prevention and control; and donated 5 tonnes of meltblown fabric to Hong Kong to produce 5 million masks. In July 2021, to support the Hong Kong government's "Early Vaccination For All" campaign, Sinopec launched a vaccination lucky draw to encourage citizens to get vaccinated. In November 2021, Sinopec distributed 1 million KN95 masks free of charge to local residents in Hong Kong, benefiting 100,000 people.

Sinopec, which is now rooted in Hong Kong and serving the local community, has carried out community activities and volunteer services to jointly build the community with the locals. Since May 2014, Sinopec Hong Kong has raised a total of HK\$1.35 million in donations; and has engaged in volunteer services. In 2020, it had 1,143 employees participating in volunteer services; with volunteer services of nearly 5,300 hours in total, promoting the community development.



Sinopec launched the "1 million of masks for free" campaign, and distributed 1 million KN95 masks for free at oil (gas) stations and the New Home Service Area in Hong Kong



Sinopec launched a children subsidy program to fund their studies and growth



Sinopec organizes volunteers to carry out a "Coastal Cleanup Brand Communication Action" to protect Hong Kong's marine ecological health

# Effective management consolidates the foundation of sustainable development

## Government calls

With sustainable development at the core; enhance the awareness of social responsibilities; strengthen the management of social responsibilities; drive the integration of social responsibility into enterprise operations; promote state-owned enterprises to become role models in fulfilling social responsibilities; and promote the economic and social development with higher quality and in a more efficient, fairer and more sustainable way.

— Guiding Opinions on Better Fulfilling Social Responsibilities of State-owned Enterprises

## Sinopec's actions

Responsible organizations for improving governance system **101**

Responsibility integration for deepening responsibility fulfillment **102**

Responsibility communication for shaping the brand image **103**

Feature: Strengthening ESG management and information disclosure to highlight the image of Sinopec as a responsible enterprise **104**

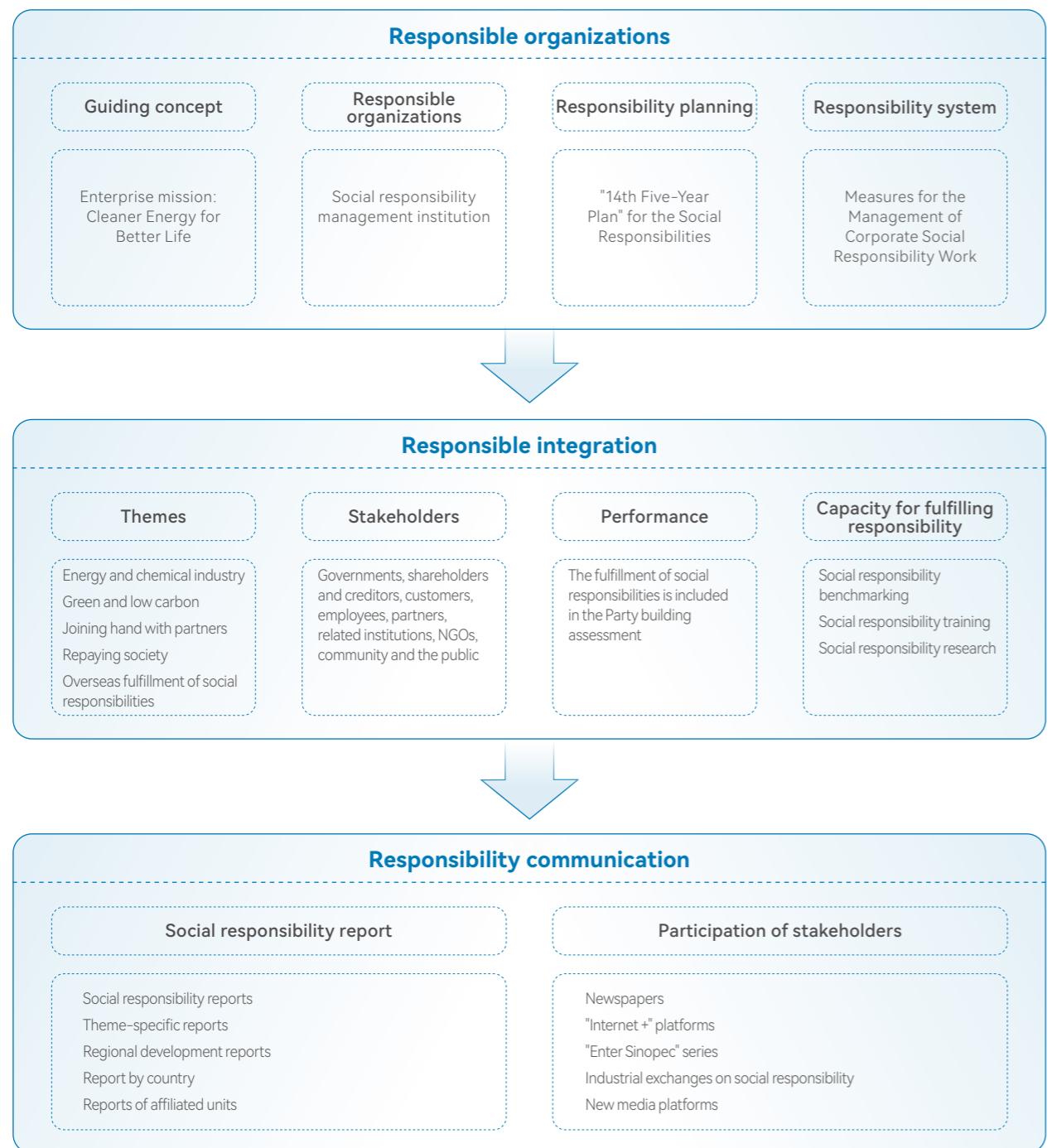


SDGs



Sinopec pursues the mission of Cleaner Energy for Better Life, and takes the initiative to fulfill its social responsibilities; incorporate the mission into its business philosophy; integrate it into its corporate strategy, production and operation, and corporate culture; and make fulfilling corporate social responsibilities a conscious behavior of the company. Sinopec has also continuously strengthened its social responsibility management; and explored practices and enhanced communication in this respect. It has given full play to its irreplaceable role in driving sustainable economic, social and environmental development, and contributed to building a better world and a better future.

### Sinopec social responsibility management model



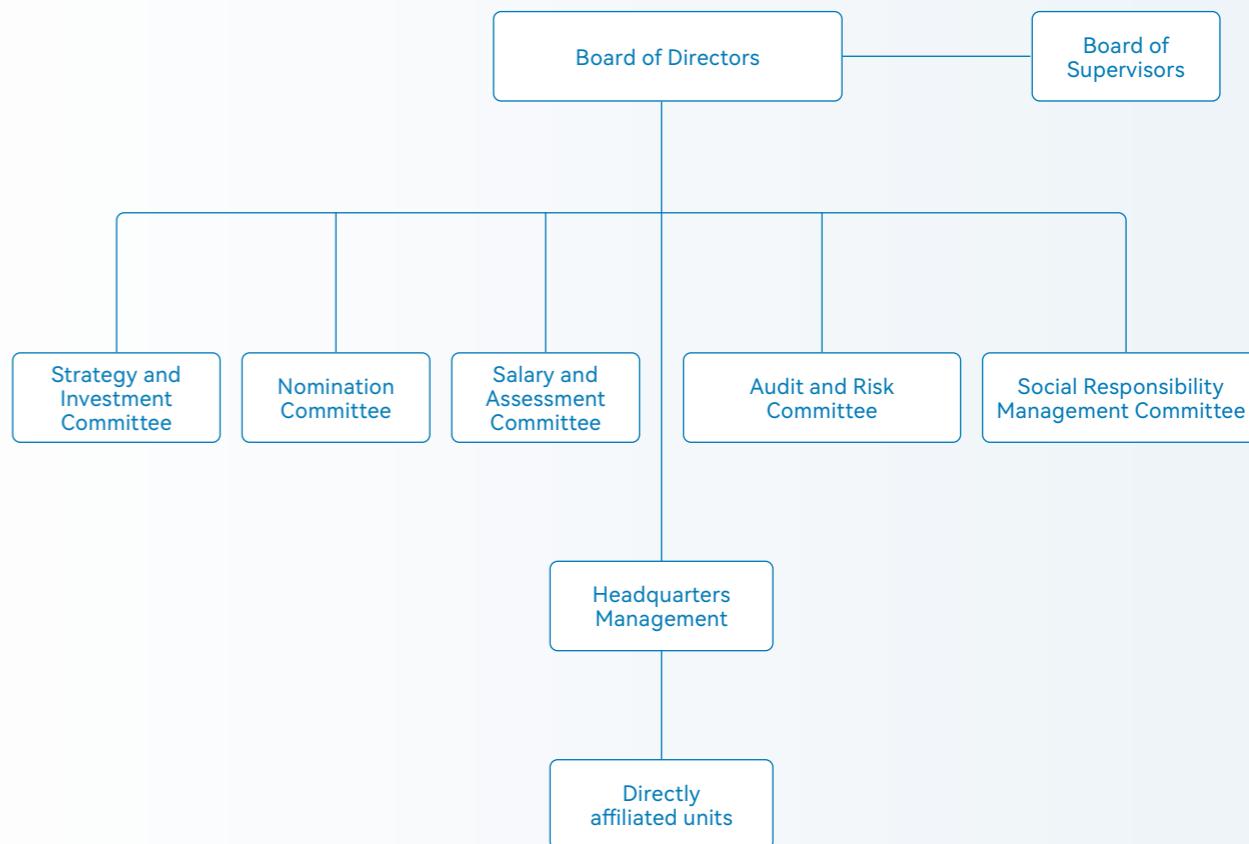
## Responsible organizations for improving governance system

Sinopec has established a Social Responsibility Management Committee, which is mainly responsible for coordinating corporate social responsibility work, formulating relevant policies and reviewing relevant documents. Sinopec is the first central enterprise to set up a social responsibility committee under its board of directors.

The office of the Social Responsibility Committee is located in the Publicity Department of the Party Leading Group, and it is mainly responsible for the strategic planning; and overall planning, coordination and promotion of management of the social responsibility of Sinopec Group; as well as the communication, dissemination and research of social responsibility. Departments at the headquarters are responsible for the social responsibility work within their business, according to their work division. Directly affiliated units have established social responsibility management organizations; actively promote the fulfillment of social responsibilities; and ensure the normal development of social responsibility work.

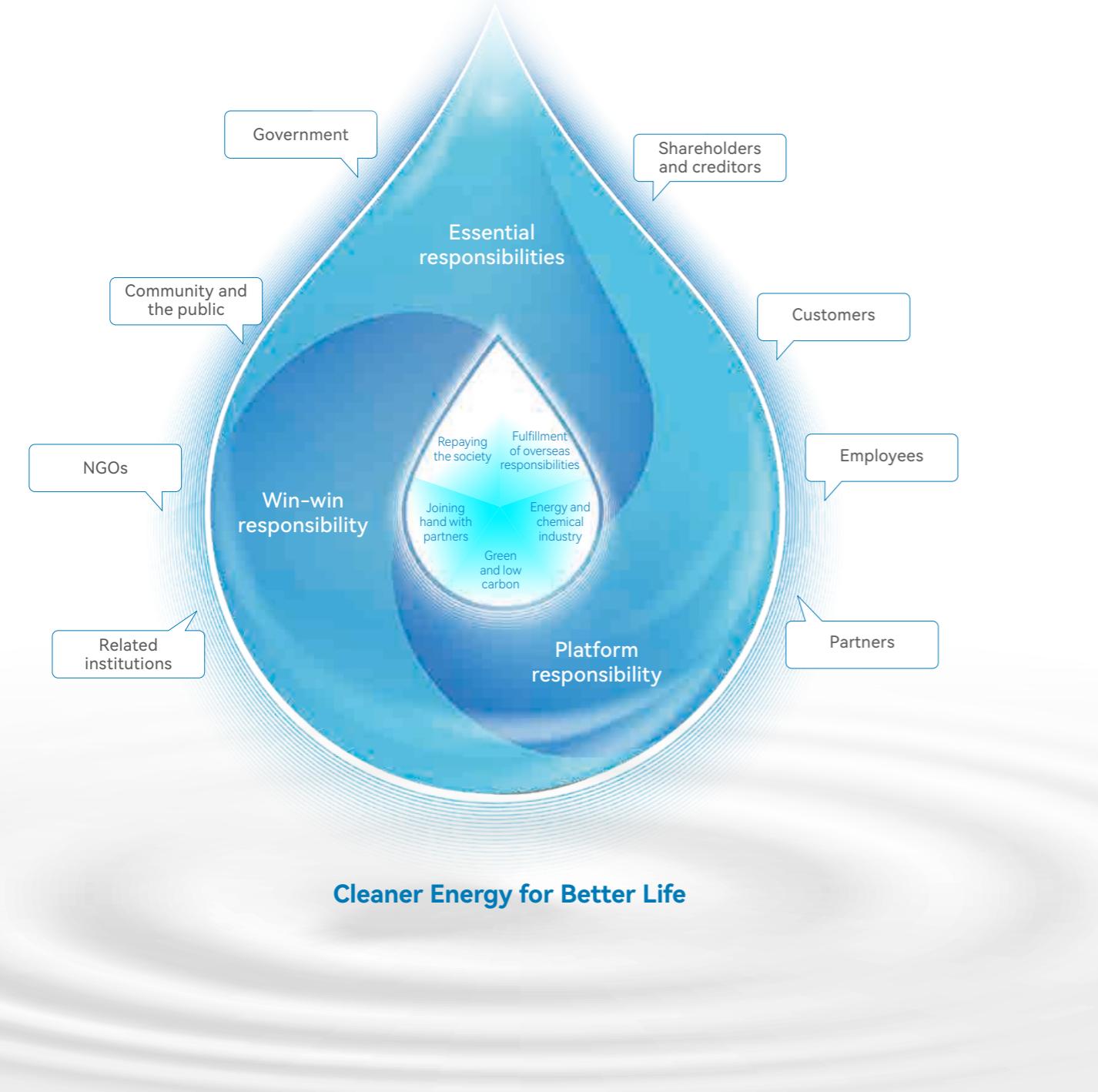
Sinopec has compiled and issued "Measures for the Administration of Social Responsibility Work (2022)", which clarifies the CSR organization management and its duties; planning; capacity building; communication management; and work assessment among others. This promotes the institutionalization and standardization of the system-wide social responsibility duties.

### Sinopec Social Responsibility Organizational Structure



## Responsibility integration for deepening responsibility fulfillment

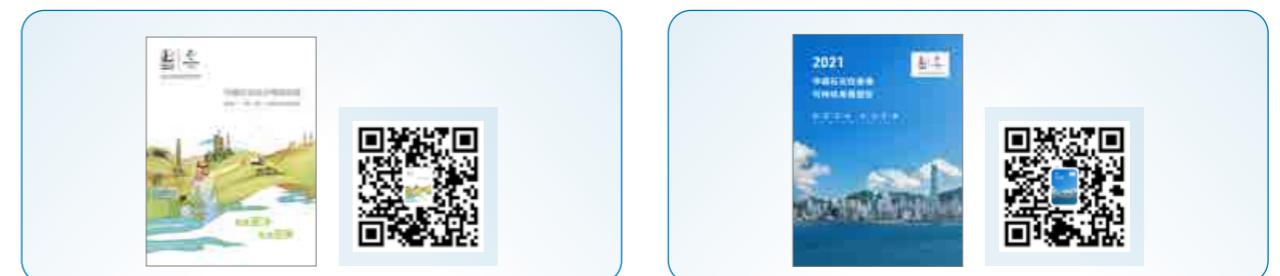
### Sinopec Social Responsibility Practice System



To ensure that the concept of social responsibility is effectively integrated into corporate management and business operations, Sinopec, based on the national macro policies; domestic and foreign social responsibility standards; corporate development strategy planning; social responsibility issues of domestic and foreign energy and oil and gas industries; and public concerns, selected 20 key social responsibility issues for the company, to fit the specific requirements of social responsibility issues into the work process of departments and of affiliated enterprises (units). The focus was placed on urging the stakeholders to carry out social responsibility work covering five aspects -- the energy and chemical industry; green and low carbon; low carbon; partners; repaying society and fulfillment of overseas responsibilities – so as to create comprehensive value for the economy, society and environment; and to promote common and sustainable development.

## Responsibility communication for shaping the brand image

Social responsibility communication	
"1+N" reporting system	<ul style="list-style-type: none"> <li>• 2020 Corporate Social Responsibility Report</li> <li>• Sustainability Report of Sinopec on Serving the Belt and Road Initiative in Russia</li> <li>• Sustainability Report of Sinopec on Serving the Belt and Road Initiative in Saudi Arabia</li> <li>• Sustainability Report of Sinopec in Hong Kong</li> <li>• White Paper on Social Responsibilities of Sinopec in Jiangsu, Shanghai, Hainan, Guangxi, Yunnan and other provinces (municipalities and autonomous regions)</li> </ul>
New media platforms	<ul style="list-style-type: none"> <li>• China Petrochemical News</li> <li>• Sinopec Monthly</li> <li>• China Petrochemical News APP</li> <li>• Sinopec official microblog account "Sinopec": <a href="http://weibo.com/sinopec">http://weibo.com/sinopec</a></li> <li>• Sinopec official WeChat account: <a href="#">sinopecnews</a></li> <li>• Enterprising Sinopec WeChat account: <a href="#">ghi_8e30ffacfdbb</a></li> <li>• Sinopec Blackboard News official WeChat account: <a href="#">shhbb2014</a></li> <li>• Sinopec official TikTok account: <a href="#">zgsh</a></li> <li>• Twitter: <a href="#">@SinopecNews</a></li> <li>• Facebook: <a href="#">@Sinopec</a></li> <li>• YouTube: <a href="#">Sinopec</a></li> </ul>
"Internet +" platform	<ul style="list-style-type: none"> <li>• Sinopec official website: <a href="http://www.sinopecgroup.com/group/">http://www.sinopecgroup.com/group/</a></li> <li>• Sinopec News website: <a href="http://www.sinopecnews.com">http://www.sinopecnews.com</a></li> </ul>
"Approaching Sinopec"	<ul style="list-style-type: none"> <li>• Holding Sinopec Open Day for 11 consecutive years</li> <li>• Participated in the collective release of the "Report on Fulfilling Social Responsibility of Central State-owned Enterprises (2021)" held by the State-owned Assets Supervision and Administration Commission (SASAC) of the State Council</li> <li>• Participated in the release event of the "Research Report on Overseas Social Responsibility of Central Enterprises (2021)" held by the SASAC of the State Council and making a keynote speech</li> <li>• Participated in the "China ESG Forum Autumn Summit" of the SASAC of the State Council and made a keynote speech</li> <li>• Supported the "13th Open Course on Sharing Responsibilities"</li> <li>• Participated in the "4th Beijing Social Responsibility Exhibition" and other series meetings of China Social Responsibility 100 Forum, and shared experience</li> <li>• Participated in "China · Corporate Social Responsibility Forum" held by China News Service and China Newsweek, and shared experience</li> <li>• Participated in conferences such as "International Conference on CSR Reporting in China"</li> </ul>
Industrial communication of corporate social responsibilities	



Sustainability Report of Sinopec on Serving the Belt and Road Initiative in Saudi Arabia

Sustainability Report of Sinopec in Hong Kong

Sinopec attaches great importance to communication and exchanges with stakeholders; and proactively expands communication methods; innovates communication channels; listens to and studies the needs and expectations of stakeholders; translates them into action goals and plans for corporate development. Besides, it disseminates its philosophy on social responsibility and fulfillment in a timely and effective manner to create the image of a responsible brand.

## Feature

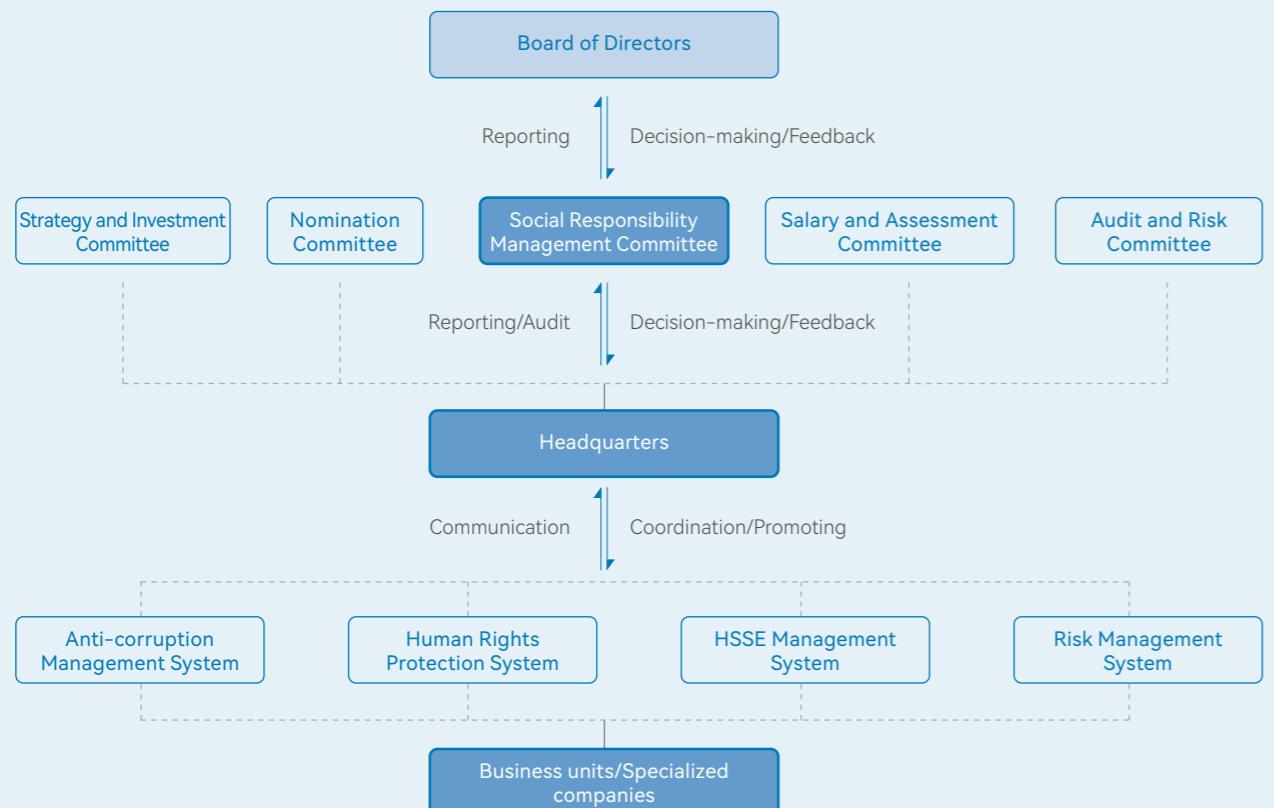
### Strengthening ESG management and information disclosure to highlight the image of Sinopec as a responsible enterprise

Sinopec has implemented the concept of innovation; coordination; green; openness and sharing. At the same time, as a leading company in the United Nations Global Compact, it follows the 10 principles of the United Nations Global Compact, and is committed to better integrating ESG (environmental, social and governance) into the company's development strategy and production and operations, helping the company improve quality and benefits; and enhance its governance efficiency. This way it has achieved remarkable results in green development; and fulfilled its social responsibilities.

#### ESG governance structure

Guided by the prevailing standards and best practices of global corporate social responsibility management, Sinopec follows the requirements of the "Code of Corporate Governance of Listed Companies" of the China Securities Regulatory Commission (CSRC) and the "Environmental, Social and Governance Reporting Guide" of the Hong Kong Stock Exchange; and it integrates ESG into the corporate governance system. By establishing and optimizing the ESG governance structure and mechanism, Sinopec has ensured that economic, social and environmental factors are taken into account in decision-making at all levels to achieve sound management of all issues related to sustainable development.

#### Sinopec ESG governance structure



The Board of Directors is the highest decision-making body for the company's ESG governance and is responsible for overall planning and coordination.

The Social Responsibility Management Committee under the Board of Directors is responsible for supervising and reviewing the company's ESG strategy, goals and annual plans, as well as the evaluation of their implementation; the Strategy and Investment Committee and the Audit and Risk Committee also participate in the deliberations and decision-making of the company's climate strategy, ESG risk and other related matters.

Sinopec headquarters coordinates and promotes the implementation of the company's ESG strategy, goals and annual plans, as well as the evaluation of their implementation; the Strategy and Investment Committee and the Audit and Risk Committee also participate in the deliberations and decision-making of the company's climate strategy, ESG risk and other related matters.

Affiliated enterprises carry out relevant work in accordance with the ESG management system and process.

#### ESG goal management

Sinopec continues to strengthen its ESG management; maintains high standards of business ethics; promotes ESG practices in risk management, compliance operation, anti-corruption, technological innovation, environmental protection, safe development, corporate social responsibilities, and safeguards stakeholders' rights and interests. Meanwhile, an ESG goal management mechanism has been established, covering major ESG performance indicators such as greenhouse gas emissions; resource consumption; pollutant emissions; safety management, and anti-corruption and compliance management. In addition to setting quantitative annual targets, Sinopec has also set mid- and long-term management goals, and reviews the progress on a regular basis.

Sinopec also signs annual performance appraisal responsibility pledges with management members and affiliated companies every year; and incorporates ESG performance indicators such as safe production; energy conservation and environmental protection; and compliance operation into the main management personnel assessment system to facilitate achievement of the ESG goals.



Sinopec ranked the third in the ESG · Pioneer 50 Index of Central Enterprises of the SASAC of the State Council in 2021

#### ESG communication and exchanges

Sinopec attaches great importance to ESG information disclosure. While meeting regulatory requirements, it follows the latest regulatory rules based on the needs of stakeholders; and promotes ESG management through information disclosure. Up to now, it has compiled and released sustainability reports for 16 consecutive years, detailing the progress and effects of the company's performance in environmental, social and corporate governance. Besides, it has participated in ESG communication activities, showing the company's fulfillment of corporate social responsibilities in an all-round way.



2021 Sustainability Report of Sinopec

## Future prospects

2022 will see the 20th CPC National Congress, and marks the start of China's journey towards building a modern socialist country and marching towards its second centenary.

Sinopec is pursuing the dreams of the new journey, and working to create a better future. For this, it will follow Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era; study and understand the spirit of the 6th Plenary Session of the 19th CPC Central Committee and stick to the general principle of seeking progress while maintaining stability. It will implement the new development concept in a complete, accurate and comprehensive manner to promote high-quality development in an all-round way; and work to build a world-leading clean energy and chemical company. It will celebrate the 20th CPC National Congress with outstanding achievements and contribute to build a modern socialist country; and realize the rejuvenation of the Chinese nation.



# Appendix

## Key performances

Indicator	Unit	2019	2020	2021
Total assets	RMB 100 million	22,117	22,400	24,181
Operating revenue	RMB 100 million	30,034	21,423	27,895
Taxes and fees paid	RMB 100 million	3,122	2,977	3,418
Domestic crude oil production	10,000 tonnes	3,513	3,514	3,515
Domestic natural gas production	100 million cubic meters	296	303	339
Oil equivalent hydrocarbons overseas on equity basis	10,000 tonnes	4,252	3,672	3,643
Refining capacity	100 million tonnes/year	2.93	2.96	3.02
Refinery throughput	10,000 tonnes	25,041	23,860	25,528
Number of service stations with Sinopec logo	Station	30,702	30,713	30,725
Sales of refined oil products (excluding Hong Kong)	10,000 tonnes	18,445	16,799	17,131
Ethylene production	10,000 tonnes	1,249	1,206	1,338
Sales of chemical products	10,000 tonnes	8,581	7,603	7,289
Rate of settled refined oil product customer complaints	%	100	100	100
Loyalty of lubricant product customers	%	93	93	93
Rate of settled lubricant customer complaints	%	100	100	100
Rate of settled chemical product customer complaints	%	100	100	100
Number of patent applications submitted abroad	Item	7,439	7,972	9,338
Number of patents granted abroad	Item	4,843	5,140	5,844

Indicator	Unit	2019	2020	2021
YoY change in industrial water intake	%	-1.1	-1.1	-1.1
Rate of discharged waste water reaching the designated standard	%	99.9	100	100
Carbon traded	10,000 tonnes	269	360	970
Indicator	Unit	2019	2020	2021
Number of employees	10,000 persons	64.1	60.8	59.3
Collective contract coverage	%	100	100	100
Rate of employees signing labor contracts	%	100	100	100
Rate of participation in five major social insurance programs and housing provident fund	%	100	100	100
Rate of payment of five major social insurance programs and housing provident fund in line with the prescribed rate	%	100	100	100
Proportion of ethnic minority employees	%	3.1	3.2	3.3
Proportion of female employees	%	31.9	31.0	30.2
Proportion of female employees in operation and management position	%	12.4	12.6	12.7
Proportion of employees joining the trade union	%	100	100	100
Employee occupational health examination rate	%	99.0	99.9	99.9
Coverage of physical examination and health archive	%	99.0	99.9	99.9
Social donation	RMB 100 million	4.57	4.39	3.37
Aid to Tibet and Qinghai (Headquarters)	RMB 10,000	4,573	4,685	5,154
Investment in rural rejuvenation (Headquarters)	RMB 10,000	—	—	14,070
Number of poverty-stricken students funded	Person	2,053	1,170	2,854

## Index

Contents	SDGs	GRI Standards	CASS-CSR 4.0 -- Petrochemical Industry	Location in the report
About the report		101	P1.1-1.3	P02
Message from the Chairman		102, 305	P2.1-2.2	P06-07
About Us		102, 201, 409, 419	P4.3-4.4, M1.1, M1.4, S1.2	P09-11
Highlight 1: Empowering the green Winter Olympics to achieve the ice and snow dreams	Goals 7, 9	102	P3.1-3.2, S4.9	P12-17
Highlight 2: Continuing rural revitalization and supporting common prosperity	Goals 1, 2, 3, 4, 8, 9, 11	203, 413, 415	P3.1-3.2, S4.5, S4.12-4.14	P18-23
Cleaner energy serves people's demand for a better life	Goals 7, 9	102, 203, 302	M2.1, E2.6	P28-31
		201, 203	M2.1	P32-33
		102, 201	M2.4-2.7	P34-36
		403	S3.1-3.4, S3.6-3.7	P37-39
		102, 201, 203	M2.1, M2.4, E1.9	P40-41
Environmental protection efforts promote green development	Goals 7, 13, 14, 15	307	E1.1-E1.2, E1.5	P44-45
		301, 303, 305, 306	E2.8, E2.11-2.15, E2.17-2.18	P46-50
		302, 305	E1.9, E1.12, E2.3-2.4, E2.6, E2.23-2.25	P51-53
		304	E3.3-3.5	P54-55
		102, 305	M2.4, E1.9, E2.24	P56-57
Creditable cooperation with partners for higher value	Goals 3, 5, 8, 12, 17	102, 401, 403, 404, 405, 406, 407, 408, 409	S2.1-2.8, S2.10-2.18	P60-63
		416, 418	M2.1-2.2, M2.11-2.18	P64-66
		308, 414	M3.1, M3.3-3.4, M3.6, M3.10-3.12, M3.15-3.16	P67-71
		102, 416	M2.1	P72-73

Contents	SDGs	GRI Standards	CASS-CSR 4.0 -- Petrochemical Industry	Location in the report
Better life and improvement of people's wellbeing	Goals 4, 11, 16	Serving the overall development through tax payment	201, 203	S1.3
		Protecting lives and health through pandemic response	413, 415	P3.1-P3.2, S2.12
		Improving people's wellbeing through public welfare and charity	413, 415	S4.6-4.11, E3.6
		Feature: "The Gas Station That Cares - A Better Road Home" through 10-year dedication	413	S4.9-4.11
Opening-up to build a better world together	Goals 16, 17	Working on production capacity to promote economic development	203	M2.1, S4.1
		Safe and environment-friendly products to protect the earth	304, 305, 403	S2.11, S3.3, E1.1, E1.3, E1.9, E2.1, E2.24, E3.4, E3.6
		Local employment enhances cultural fusion	401, 404, 405, 406	S2.15, S2.17, S4.2-4.3
		Community co-construction builds a bridge of friendship	203, 204, 413	P3.1, S4.1, S4.4, S4.10
		Feature: Join hands to build a better Hong Kong based on the Belt and Road Initiative	203, 304, 401, 404, 413	P3.1, M2.1-2.2, S4.2-4.3, S4.10-4.11, E1.3, E1.7, E2.7, E3.6
Effective management consolidates the foundation of sustainable development	Goal 17	Responsible organizations for improving governance system	102	G1.1-1.2, G3.1-3.3, G4.1
		Responsibility integration for deepening responsibility fulfillment	102, 103	G2.1, G2.3
		Responsibility communication for shaping the brand image	102	G2.4, G6.2-6.3
		Feature: Strengthening ESG management and information disclosure to highlight the image of Sinopec as a responsible enterprise	102, 103	G2.3-2.4, G3.2-3.3, G6.3
Future prospects			102	A1
Appendix		Key performances	201, 302, 401, 403, 405, 415	A2
		Index		A5
		Report rating		A4
		Feedback		A6

## Report rating

### Rating of 2021 Corporate Social Responsibility Report of China Petrochemical Corporation

At Sinopec's request, the Chinese Expert Committee on CSR Report Rating selected experts to form a team to rate the "2021 Corporate Social Responsibility Report of China Petrochemical Corporation" (the "CSR Report").

#### Rating basis

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 4.0) of the Chinese Academy of Social Sciences (CASS-CSR 4.0) and the 2020 Standards for Rating of CSR Report of Chinese Enterprises of the Chinese Expert Committee on CSR Report Rating.

#### Rating process

- 1.The rating team reviewed and confirmed the CSR Report Process Data Confirmation and related supporting materials submitted by the CSR Report compilation team;
- 2.The rating team evaluated the writing process and content of the CSR Report, and drew up a rating report;
- 3.The vice-chairman, head and experts of the rating team jointly signed the rating report.

#### Rating conclusion

##### Process (★★★★★)

The CSR Office of the Sinopec Group (Publicity Department of the Sinopec Party Leading Group) set up a report preparation working group to coordinate the report compilation work, and controls the overall direction and key nodes; and the Social Responsibility Committee of the Board of Directors is responsible for the final review of the report. The report, with a clear functional value orientation, is positioned as an important tool for improving corporate social responsibility management; strengthening communication with stakeholders and promoting brand reputation. It identifies substantive issues according to national macro policies; international and domestic CSR standards; industry benchmarking analysis; corporate development strategies and social focus. Sinopec released special reports such as the Sustainability Report of Sinopec on Serving the Belt and Road Initiative in Saudi Arabia; and the Sustainability Report of Sinopec in Hong Kong; and promotes its subsidiaries, Sinopec Corp; and Sinopec Oilfield Service Corporation to independently compile and publish CSR reports, building a "1+ M+N" multi-level reporting system. It plans to hold a special press conference to release the report; and will present the report in electronic and printed forms in both Chinese and English versions, showing outstanding process management.

##### Substantiality (★★★★★)

The CSR Report features key subjects of the petroleum and chemical industry such as macro policies; product quality management; sustainable product supply; occupational health management; safe production; technological innovation; energy conservation and emission reduction; development of a circular economy; response to climate change; ecological protection and restoration; and supply chain responsibility with details, showing excellent substantiality.

##### Integrity (★★★★★)

The CSR Report shows 92.01% of the key indicators of the petroleum and chemical industry from the perspective of "cleaner energy serves people's demand for a better life", "environmental protection efforts promote green development", "creditable cooperation with partners for higher value", "better life and improvement of people's wellbeing", "opening-up to build a better world together" and "effective management consolidates the foundation of sustainable development", showcasing high integrity.

##### Balance (★★★★★)

The CSR Report also shows negative information such as "the number of major compliance risk events", "the number of sudden environmental pollution and ecological damage incidents", "the number of oil spill environmental incidents", "the number of incidents that damaged biodiversity"; "the number of events that attracted punishment or fines for non-fulfillment of information disclosure"; and other negative information, and details like "white smoke" emissions from refineries that caused public debate, and offered suggestions for improvement, showcasing a well-balanced report.

##### Comparability (★★★★★)

The CSR Report shows comparison data of 52 key indicators such as "taxes and fees paid"; "refining capacity"; "social donations"; "aid to Tibet and Qinghai (Headquarters)"; "YoY change in industrial water intake"; and "carbon trades"

of three consecutive years; as well as horizontal comparison data such as "the world's largest oil refining capacity"; "the world's second-largest synthetic rubber production capacity"; and "the third place in the ESG · Pioneer 50 Index of SASAC", showcasing outstanding achievements when compared with previous performance and in a global context. Thus the report features a high comparability.

#### Readability (★★★★★)

The CSR Report focuses on the theme of "Cleaner Energy, Better Life", and explains Sinopec's concept, practice and achievements in fulfilling its annual CSR from six dimensions: energy and chemical industry; green and low carbon; working with partners; repaying society; fulfillment of overseas responsibilities; and responsibility management, responding to the expectations and demands of stakeholders. The report cover design is again done in the ink and wash style; and incorporates pictures of the main business; the "Love Station" public welfare activities; the role in the Beijing Winter Olympics and other CSR fulfillment moments, which enhances the report's recognition and readability. Double-spread pictures fit the theme of the chapters, starting with "national call" and "Sinopec action", helping readers get to the essence and essentials of the CSR Report. Besides, the QR codes offer channels to extend the interpretation of the report content, showing excellent readability.

#### Innovation (★★★★★)

The CSR Report had three major CRS themes: "Celebrate the centenary of the founding of the Party, and gather the strength to forge ahead", "Empowering the Green Winter Olympics to achieve the ice and snow dreams", and "Continuing rural revitalization and supporting common prosperity", and highlights Sinopec's activities on responding to the 100th anniversary of the founding of the Communist Party of China; contributing to the Green Olympics and rural rejuvenation; showing Sinopec's performance as a responsible central enterprise. All chapters conclude with a feature report, highlighting Sinopec's practice in fulfilling CSR. Also, Sinopec is the first to release the "14th Five-Year Plan for Helping Rural Revitalization", which showcases Sinopec's leadership and awareness of its CSR mission, pointing to its focus on innovation.

#### Overall Rating (★★★★★+)

According to the evaluation by the rating team, the 2021 Sinopec CSR Report is rated Five-Star in terms of the process, substantiality, integrity, balance, comparability, readability and innovation, and is a model of CSR reporting.



**中国企业社会责任报告  
评级专家委员会**  
Chinese Expert Committee on CSR Report Rating

Sinopec CSR Report has won the five-star rating for 11 consecutive years.

#### Suggestions for improvement

Increase the disclosure of core industry indicators to further improve the integrity of the report.

Huang Qunhui, Vice chairman of the Rating Expert Committee

Zhong Hongwu, head of the rating team

Xu Hua, expert at the rating team

Issuance time: April 15, 2022



Scan the QR code to read the enterprise rating file

## Feedback

Dear Reader,

Thank you very much for reading "2021 Corporate Social Responsibility Report of China Petroleum & Chemical Corporation". We welcome any suggestions for the CSR Report and we will listen carefully to the voice of every reader.

Mail: No. 22, Chaoyangmen North Street, Chaoyang District, Beijing, China

China Petrochemical Corporation (100728)

Tel: +86(0)10 59960114

Fax: +86(0)10 59969810

### Your information

Name : .....

Tel : .....

Employer : .....

E-mail: .....

### Report evaluation

Integrity	Logic	Readability	Innovation
<b>Overall rating</b>			
Cleaner energy serves people's demand for a better life	Environmental protection efforts promote green development	Creditable cooperation with partners for higher value	Better life and improvement of people's wellbeing
Opening-up to build a better world together	Effective management consolidates the foundation of sustainable development		

Note: Each evaluation index is divided into 5 levels, 1 is the lowest score and 5 is the highest.

### Your comments

Your comments or suggestions on the report:

## **China Petrochemical Corporation**

Mail: No. 22, Chaoyangmen North Street, Chaoyang District, Beijing, China

P.C.: 100728

Tel: +86-(0)10 5996 0114

Fax: +86-(0)10 5996 9810

Web: [www.sinopecgroup.com](http://www.sinopecgroup.com)

Environmental considerations for report publication

Paper: Report printing paper is FSC certified and EPC certified

Ink: Use environmentally friendly ink to reduce air pollution



Sinopet Microblog



Sinopet Wechat