



**中石化石油工程技术服务有限公司**

*Sinopec Oilfield Service Corporation*

*2020 Environmental, Social, and  
Governance (ESG) Report*

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## About the Report

### Scope of the Report

The 2020 Environmental, Social and Governance (ESG) Report (hereinafter referred to as the "ESG Report") of Sinopec Oilfield Service Corporation (hereinafter referred to as "Sinopec Oilfield Service" or the "Company" or "we") aims to give an objective and fair view of the important performance of environmental, social, governance and other aspects of the Company. For details of the governance part, please read in conjunction with the section "Corporate Governance" in Sinopec Oilfield Service Corporation Annual Report 2020 to help readers understand the Company more comprehensively. Unless otherwise specified, the scope of the Report includes Sinopec Oilfield Service Corporation and its subsidiaries, with the reporting period from 1 January 2020 to 31 December 2020 (hereinafter referred to as the "Year"). In order to enhance the comparability and completeness of the Report, part of the content is appropriately extended beyond the reporting period.

### Explanation of the Report

The Report has been prepared in accordance with Appendix 27 "Environmental, Social and Governance Report Guideline" to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (hereinafter referred to as "Hong Kong Stock Exchange"), the "Notice on Strengthening Listed Companies' Undertaking of Social Responsibilities and Issuance of "Guidelines on Environmental Information Disclosure by Companies Listed on Shanghai Stock Exchange" and the "Guidelines on Environmental Information Disclosure by Companies Listed on Shanghai Stock Exchange".

The information and cases in the Report are extracted from the original records of actual operations of Sinopec Oilfield Service Corporation and its subsidiaries. The Report is published in three languages: Simplified Chinese, Traditional Chinese and English. In case of discrepancy between the texts, the simplified Chinese version shall prevail. The electronic version of the Report can be downloaded from and read on the official website of Sinopec Oilfield Service, the official website of the Shanghai Stock Exchange and the website of the Hong Kong Stock Exchange.

### Confirmation and Approval

The Report was approved by the second meeting of the Tenth Board of Directors on 24 March 2021 upon confirmation by the management.

## ESG Management System

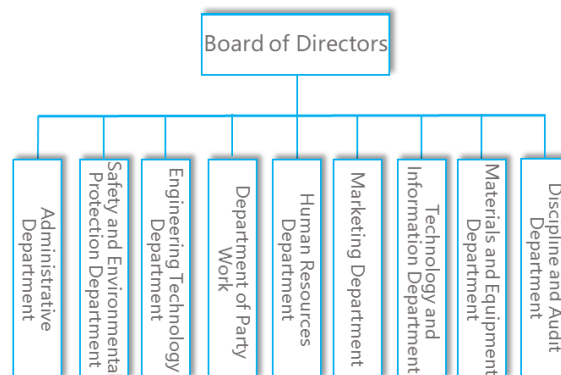
### ESG Concept

Upholding the core values of “being people-oriented, and pursuing good quality, innovation and win-win results”, Sinopec Oilfield Service Corporation implements the development strategy of "specialization, marketization, internationalization, high-end orientation, specialization," and practices the development philosophy of "serving customers, supporting oil and gas , taking the lead in technology, creating value", to fulfill its commitment to building itself into a world-class comprehensive oil service company.

We insist on paying attention to the health and safety of employees, attach importance to project quality control, pursue the goal of "zero injury, zero pollution, and zero accidents", strive to achieve safe operation and green and low-carbon development, and at the same time actively perform social responsibilities and give back to the community. We will continue to improve corporate governance, integrate environmental, social and governance concepts into corporate culture, create more value for stakeholders, thus contributing more to the harmonious development of society.

### ESG Management Structure

The Company continues to improve the ESG management structure, implement the concept of sustainable development, and promote the implementation of ESG management. The Board of Directors is responsible for formulating the overall ESG strategy and making decisions on major ESG-related matters. In combination with the Company’s current management organization structure, the Company has conducted comprehensive management at all levels of ESG through Administrative Department, Safety and Environmental Protection Department, Engineering Technology Department, Department of Party Work, Human Resources Department, Marketing Department, Technology and Information Department, Materials and Equipment Department, and Discipline Inspection and Audit Department.



## Communications with Stakeholders and Assessment of Importance of Key Issues

The Company continues to improve its management of environmental, social and governance. Combined with the characteristics of the overall business and operational activities, it identifies the main stakeholders, including shareholders and investors, government and regulatory agencies, shareholders and investors, employees, suppliers, customers, partners, communities and the public. In the process of ESG management, the Company improves the communication mechanism to maintain good communication with major stakeholders through multiple channels, deepens the understanding of the requirements of various stakeholders, responds to the expectations and demands of stakeholders in a timely manner, in order to consolidate the mutual benefit and win-win results.

Summary of major communication channels and concerns of stakeholders of Sinopec Oilfield Service		
Stakeholders	Communication channels	Topics of concern
<b>Government and regulators</b>	Important conferences, Policy advisory, Case report, Inspection, Documents exchange, Information disclosure	<ul style="list-style-type: none"> <li>• Operation compliance</li> <li>• Corporate governance</li> <li>• Energy conservation</li> </ul>
<b>Shareholder and other investors</b>	Shareholders' meeting, Periodical report, Interim report	<ul style="list-style-type: none"> <li>• Profitability</li> <li>• Operating strategy</li> <li>• Transparent disclosure</li> </ul>
<b>Clients</b>	Client visits, Client satisfaction survey	<ul style="list-style-type: none"> <li>• Service quality</li> <li>• Information security</li> </ul>
<b>Employees</b>	Employee satisfaction survey, Employee activity, Employee training, Internal publication	<ul style="list-style-type: none"> <li>• Salary and welfare</li> <li>• Development and training</li> <li>• Occupational health and safety</li> </ul>
<b>Suppliers</b>	Supplier identification, Communication meeting	<ul style="list-style-type: none"> <li>• Fair cooperation</li> <li>• Honest agreement</li> </ul>
<b>Partners</b>	Strategic cooperation talks, Bilateral talks	<ul style="list-style-type: none"> <li>• Fair cooperation</li> <li>• Honest agreement</li> <li>• Joint development</li> </ul>
<b>Community and the public</b>	Public benefit activities, Community activities, Recruitment talks, Opportunity of internship	<ul style="list-style-type: none"> <li>• Community relationship</li> <li>• Employment promotion</li> <li>• Community investment and public welfare</li> </ul>

Based on the feedback obtained through communication with stakeholders, we have summarized the stakeholders' focus on the Company's ESG field. The important ESG issues identified by the Company in 2020 include "health and safety", "product responsibility", "emissions", and "climate change"; related topics include "the environment and natural resources", "use of resources", "employment", "development and training". "labor standards", "supply chain management", "anti-corruption", and "community investment". We will respond to the content of each topic separately in the Report.



## Occupational Health and Safety Assurance

The Company strictly abides with requirements of the Safety Production Law of the People's Republic of China, the Law of the People's Republic of China on Prevention and Control of Occupational Disease, the Special Equipment Safety Law of the People's Republic of China and other laws and regulations. The company will continue to improve the HSSE management system, strengthened the safety production management, and provided comprehensive protection for the occupational health of employees.

## Management System Assurance

The Company adheres to the concept of "safety and environmental protection first, keeping physical and mental health, always being strict", and continued to promote the improvement and implementation of the HSSE management system. During the Year, the Company revised the HSSE Inspection Management Regulations and other management systems, and issued the HSSE Management System for Petroleum Engineering Company (2020 Edition), covering onshore geophysical exploration, drilling, logging, mud logging, cementing, downhole operation, pipe tools and offshore drilling, offshore downhole operation and other business lines, to improve the overall management quality of HSSE, realize the effective unification of regulations, standards and systems, and provide standardized guidance for effectively ensuring the occupational health and safety of employees.



▲ HSSE Management System for Petroleum Engineering Company



In 2020, the Company compiled the Petroleum Engineering HSE Standards Compilation Manual (2020 Edition) to systematically organize effective standards covering all business lines to standardize the behaviors of various professions to ensure work safety in the petroleum engineering sector, promote the standardized construction of job sites, and improve site safety management, with an ultimate goal of building a world-class oil service company.

## Work Safety Management

The Company has attached great importance to work safety management to comprehensively guaranteed the safety of employees in production operations. Through

the strengthening of on-site safety management, the improvement of emergency control mechanisms, the implementation of safety education and the innovation of safety technology, we have continuously improved the level of work safety management, comprehensively reduced the risk of accidents, and committed to creating a safe working environment for employees.

### **On-site Safety Management**

Orderly on-site safety management is inseparable from standardized management and control procedures. During the Year, the Company formulated the Safety Production Responsibility System for Petroleum Engineering Company Headquarters and Petroleum Engineering Company HSSE Inspection Management Regulations, and strictly implemented the Ten Measures for Strengthening the Safety Management of Direct Operations, Management Measures of Safety Score for All Staff and other systems to improve the standardized construction of on-site safety management.

We have updated the safety classification inspection and assessment mechanism, supervised the corresponding risks level by level, implemented the assessment and accountability system at all levels, effectively strengthened the implementation of safety management responsibilities, made the inspection accountability system more reasonable, thus effectively promoting on-site safety management.

The Company also constantly improves the on-site safety inspection mechanism. In 2020, based on the concept of “safety management is a necessity in business operation”, the Company has fully optimized the on-site safety inspection process, strictly implemented the safety responsibilities of each unit, and achieved full coverage of inspections. The Company has formulated and followed the Interim Management Regulations on Ordering Suspension and Personnel Leaving Office at Construction Sites in Petroleum Engineering, sorted out the problems found in the inspection by professional category, and clarified the responsible department for follow-up tracing and guidance on rectification. We required construction sites with major hidden dangers and that cannot guarantee safe operations to suspend work for rectification, and to carry out off-job training for personnel with serious shortages of knowledge or skills for their posts and personnel with serious violations of regulations.

At the same time, the Company has actively conducted training-style inspections, and provided guidance and support for difficult issues while proposing rectification suggestions on identified problems. In 2020, project on-site safety inspections and rectification have achieved significant results, and the number of projects in the drilling crew with hidden dangers has decreased by 33% on average. In addition, the Company has also implemented a work permission system, by which it organizes centralized training for those who approve and supervise relevant projects, to ensure 100% of these people holding relevant certificates.

## Video monitoring platform

The Company has promoted the construction of a real-time video monitoring platform for production and operation sites, which has gradually realized full coverage of the operation sites. As of November 2020, upon the launch of the official version of the video monitoring platform, except for offshore operation sites, all regional (professional) companies and their professional operating units have established their own platforms and connected to the petroleum engineering production video monitoring platform, with an access rate of up to 93.4%.

The use of the video monitoring platform has improved the safety monitoring performance of the drilling operation site, realized the interconnection between the back-end monitoring management department and each construction site, providing technical support for preventing and containing the occurrence of major accidents. Through real-time communication and remote guidance, we timely and effectively identified and solved potential safety hazards in the weak links of safety production to reduce accident risks and improve the efficiency of on-site safety management.

During the Year, the Company headquarter carried out video spot checks on the operating well sites for a total of 120 times, discovered and supervised the rectification of 376 potential hazards. We conducted key observations on high-risk operations reported by frontlines and implemented on-site and video monitoring. As of the end of 2020, the Company has carried out video safety observations for operating wells for 34,519 times, which has played an important role in warning and education of violations and discovery of hidden dangers at the operation site.



▲ Real-time monitoring of production sites

## Technology for Strengthening Safety

The Company continues to improve the level of safety-related technologies by actively promoting the research and development. We organize and carry out safety technology research on difficult issues, stimulate employees' motivation for safety technology

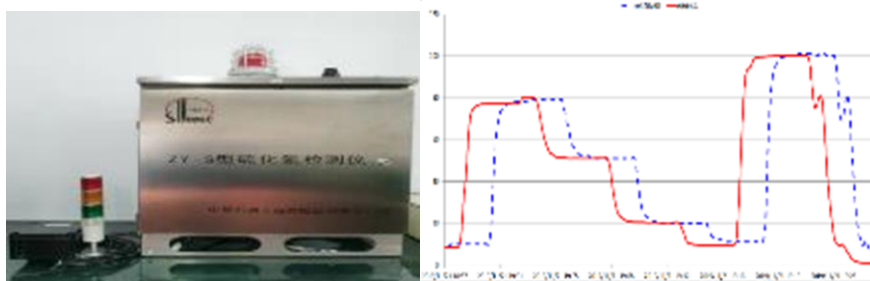
innovation, research and solves on-site problems, reduces safety risks, and uses scientific and technological means to ensure safe production.

In order to strengthen the exchange, publicity and application of safety technology, the Company has built a safety technology exchange platform. Through the "Safety and Environmental Protection" column on the official website, the Company monthly releases the Safety technology Information for Petroleum Engineering, which covers domestic and foreign petroleum engineering safety technology trends, corporate safety technology and equipment innovation, and safety standardization information, promoting the sharing of safety technology information on the frontline and safety standardization construction. In addition, we held 4 "Safety Lectures", with a total of more than 880 people from 18 companies participating in the seminars, promoting exchanges in safety technology, the publicity of safety technology standards and the management experience exchanges.

In 2020, the Company has carried out a number of safety technology research projects including "Drilling Column Automation Complete Equipment Technology", "Technology Research on the Application of Intelligent Detection and Early Warning of Hydrogen Sulfide Spectrum at Wellsite", "Research on the Sulfur Prevention Technology of Blowout Prevention Facilities for High Sulfur Wells", and " Research and Application of Safety Video Intelligent Analysis System at Drilling Operation Site". The company actively promoted the application of new equipment such as the integrated back-pressure valve snap connection device, intelligent electronic posture device, top-driven and two-deck anti-collision device, derrick disassembling and installation safety device, wire rope non-destructive detectors, etc., introduced and applied well-established technologies such as drilling safety monitoring and intelligent protection devices, and electronic intelligent ignition devices. These safety technology innovations and applications have provided a more comprehensive guarantee for production safety.

## Research on the application of intelligent detection and early warning of hydrogen sulfide spectrum in wellsite

The Company has independently developed a wellsite hydrogen sulfide spectrum intelligent detection and early warning device, which replaces the hydrogen sulfide detection technology that relies on hydrogen sulfide electrochemical sensors used in traditional drilling wellsite. Based on the spectral gas detection technology, it has realized the continuous detection of hydrogen sulfide gas and multi-level optical intelligent warning at the wellsite. The device is featured by wide detection range (0-1000ppm), high stability, longevity, etc., with explosion-proof function, and can adapt to complex temperature and environmental conditions. Its hydrogen sulfide response time can be advanced by 2 seconds compared with traditional hydrogen sulfide detection technology, saving time for the timely treatment of hydrogen sulfide gas at the well site, eliminating serious safety hazards in drilling operations in high-sulfur oil and gas fields, and thus ensuring the safety of drilling operations.



▲ Intelligent detection and early warning device for hydrogen sulfide spectrum

### **Research on the sulfur prevention technology of blowout prevention facilities for high sulfur wells**

The Company has carried out research on the sulfur prevention technology of blowout prevention facilities for high-sulfur wells. Targeting at the “three highs” characteristics of high sulfur content, high pressure, and high production of high-sulfur carbonate gas reservoirs in southwestern China, it welded sulfur-resistant alloy in ram blowout preventer, drilling four-way and flat valve inner cavity in contact with drilling fluid of newly purchased well control main equipment to improve the sulfur resistance and corrosion resistance; used the booster hydraulic cylinder to cut the ram blowout preventer to improve the shearing capacity of blowout prevention device; supplemented the purchase of FKQ144012 control system to meet the demand for increasing the use of booster cylinders. This measure has effectively solved the corrosion problem of drilling well control equipment and facilities, and reduced the safety risks of exploration and development, thereby improving the safety assurance capability of well control equipment for the "three highs" wells, and the on-site emergency response capability.



▲ Improve well control equipment of "three highs" wells to ensure safety

### **Implementing Safety Education**

The Company actively carries out employee safety education to continuously raise employee safety awareness. In 2020, the Company has established 11 safety practice bases, all of which have been put into use. A total of 3,093 intensive shift training sessions were organized throughout the year, in which 108,000 person-times participating, with an average shift training time of 16.7 days per person; and 253,000 person-times participated in training issuing certificates and professional training, etc. We also actively improved the competence and quality of full-time safety supervisors by organizing comprehensive

training for safety directors, and rotation training for a total of 4,255 person-times of full-time HSE management personnel.

At the same time, we regularly conduct case analysis and reflection, organized in-depth "inspection of ideas, investigation of management, investigation of technology" activities, and followed up and rectified supervise plans for prominent problems in the field of safety and environmental protection, and implemented relevant rectification.

### **Emergency Safety Control**

The Company strictly follows the Safety Production Law of the People's Republic of China, Emergency Response Law of the People's Republic of China and other laws and regulations to establish an emergency management command system, so as to continuously promote the standardization of emergency procedures, and improve on-site emergency management capabilities.

All regional (professional) companies have established emergency command centers, which, under the overall framework of the integrated cloud platform (ICP) project, based on the three major platforms of the production operation system, the wellbore business integration platform, and the production video monitoring platform, have integrated resources to build emergency management centers, forming an emergency command and management system that facilitates coordination at different levels.

The Company actively strengthens the construction of voluntary emergency response teams on the frontline. Through clarifying responsibilities and division of labor, strengthening daily targeted training, regularly carrying out combat drills, continuously improving emergency plans and emergency response cards, we has effectively improved emergency response and "team fighting" capabilities. During the Year, the Geophysical Company organized a three-level joint emergency drill for the loss of civilian explosives in the Mianzhu project in Sichuan.

In 2020, the Company has promoted the standardized construction of the well control abnormal management reporting mechanism and established a statistical analysis system for overflow and lost circulation to clearly standardize the reporting process and emergency handling of abnormal conditions. The Company conducted monthly analysis on overflow, lost circulation and other well control abnormalities and downhole complex faults, to formulate emergency preventive measures based on the characteristics of regional construction.

In 2020, we carried out "Four 'No' and Two 'Direct'" safety inspections, supervised the rectification of problems identified, and conducted video inspections of 36 drilling teams in response to dangers of natural disasters such as typhoons, heavy rains, floods, landslides, based on the characteristics of the construction area to effectively implement on-site preventive measures to ensure safe production during rainy and flood seasons.

## **Protection of Occupational Health**

The Company attaches great importance to employee occupational health management, strictly abides by the Safety Production Law of the People's Republic of China, Occupational Disease Prevention Law of the People's Republic of China and other regulations and industry standards, and continuously improves the occupational health management system by adopting comprehensive occupational disease protection and labor safety protection measures to provide multiple safeguards for the occupational health of employees.

The Company stipulates that occupational disease protection facilities must be put into use at the same time as other production facilities, arranges occupational health management personnel, and carries out special inspections and treatments for noise and dust exceeding standards to provide employees with a good working environment. The Company regularly organizes physical examinations for all employees, provides mental health consulting services, and conducts health assessments, formulates "one person, one policy" health intervention plans and follow-up monitoring for high-risk personnel, and improves emergency medical and treatment conditions and equipment by providing automatic external defibrillator (AED) in qualified places. The Company has continuously improved its labor protection equipment, completed the management system and the quality control of labor protection supplies, and organized special inspections on labor protection supplies.

Meanwhile, the Company organizes and strengthens training and drills of various occupational health emergency plans from time to time, upon which, it conscientiously summarizes and evaluates the problems that arise in the drills, to effectively improve the emergency response ability of all employees.

### **Drilling platform's rapid automatic mixing and weighting system device to avoid dust hazards**

A drilling team of Zhong Petroleum Engineering Company earnestly carried out the identification of occupational hazard factors in the workplace before operation, and then established a list of occupational hazard factors to regularly conduct detection on these factors and publish the result timely, and regulate the use of labor protection equipment. During the on-site construction process, the team actively carried out occupational hazard treatment by applying the rapid automatic mixing and weighting system device independently developed by the said Company, to meet the requirements for rapid aggravation of drilling fluid for well control safety, and at the same time, to collect the dust generated during the aggravation process and reuse the dust after filtration, so as to meet the national first-level emission standards, avoid environmental pollution, and effectively reduce the barite dust that may cause harm to the respiratory system of employees during the aggravation process, and avoid the risk of occupational injury.



▲ Drilling platform's rapid automatic mixing and weighting system (before vs. after)

## Environmental Management

The establishment of ecological civilization is in the interest of the current and future generations. The Company pays attention to the challenges of climate change, actively responds to the national "30 60" carbon emission target<sup>1</sup>, and continues to practice the green development mode. We strictly implements the Environmental Protection Law of the People's Republic of China, Energy Conservation Law of the People's Republic of China, Prevention and Control of Environmental Pollution by Solid Wastes of the Law of the People's Republic of China and other relevant laws and regulations, formulates and implements the HSSE Management System for Petroleum Engineering Company. Throughout the business process, we manage to improve resource utilization efficiency, deepen the clean production model, and effectively reduce the environmental impact created by its businesses.

The Company actively implements environmental target management, signs HSSE responsibility letters with regional (professional) companies to decompose various energy-saving and emission-reduction indicators, in order to effectively control energy consumption, water consumption, carbon emissions, and pollutant emissions and include these factors in the annual assessment of the company and its management personnel, and implement the accountability system for environmental goals at all levels.

Based on the characteristics of petroleum engineering services, the main gas emissions generated during the Company's operations are greenhouse gases, which are derived from the use of electricity and fuels converted from fossil fuels, mainly including carbon dioxide, methane and nitrous oxide. In 2020, the greenhouse gas emissions of the Company were 2,856,100 tons, and greenhouse gas emissions per RMB10,000 was 0.553 tons.

## Resource Usage

The Company strictly complies with various energy-saving regulations and operational requirements of the countries and regions where we operate, and carries out "energy efficiency improvement" plans to achieve resource conservation and energy efficiency improvement.

## Energy Saving and Consumption Reduction

The Company constantly promotes the application of new technologies and new devices to promote energy conservation and consumption reduction. During the Year, the Company exerted lots of efforts in promoting energy-saving technologies such as oil-to-gas, oil-to-electricity, recovery of waste heat and pressure, and widely used new energy-saving devices such as dual-fuel engines, energy-saving frequency conversion motors, electric

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<sup>1</sup> In 2020, Xi Jinping, the president of China, announced at the 75th Session of the United Nations General Assembly that "China will strive to peak its carbon dioxide emissions by 2030 and endeavour to achieve carbon neutral by 2060".

fracturing skids, and dynamic powerless compensation. At the same time, the Company regularly checked and eliminated high-consumption and low-efficiency equipment, to achieve energy conservation at the source.

During the Year, the Company focused on push forward the "Energy Efficiency Improvement Plan", promoted the implementation of energy conservation projects by technical and management means. As of the end of 2020, the Company has implemented 11 "Energy Efficiency Improvement Plan" projects, with a total investment of RMB53.31 million, realizing benefits of RMB114,148,400, and saving 83,400 tons of standard coal.

The Company advocates a green office mode and actively implements resource conservation measures. In daily work and life, the Company guides employees to conduct a green work mode by issuing and posting proposals and energy-saving reminder cards. We launch the "Empty Plate Campaign" to guide employees to practice economy. We encourage employees to participate in green and low-carbon activities to enhance their awareness of green environmental protection, and cultivate good habits in leading a low-carbon life.

In 2020, the comprehensive energy consumption per RMB10,000 of industrial output is 0.266 tons of standard coal, compared with 0.273 tons of standard coal per RMB10,000 in 2019, a decrease of 0.007 tons of standard coal. In 2020, the Company completed 727 wells with grid-powered rigs with a drilling footage of 1,645,656.35 meters, which consumed 694.80893 million kilowatt hours of electricity, replacing 201,030 tons of diesel, and saving energy consumption of 207,530 tons of standard coal.

### **Water Conservation**

The Company comprehensively promotes the application of water-saving technology and the comprehensive utilization of wastewater recycling, strengthens the basic water-saving management in the project operation process, and standardizes the process management of statistics, analysis, and improvement on water resources consumption. We makes full use of unconventional water sources such as rainwater, ditch water, operation waste liquid, and domestic sewage in the factory area, to increase the recycling of drilling fluid, and recover all drilling and operation wastewater. At the same time, the Company improvex the treatment and utilization technology of fracturing flowback fluid, greatly reducing the amount of freshwater consumption, and achieving water-saving goals.

In 2020, the Company had used 7,032,500 cubic meters of industrial water, 1.89 cubic meters per RMB10,000 of output.



▲ Energy saving with new technology and new equipment

**Energy and resource use (Scope: domestic projects of Sinopec Oil Services Headquarter and its subsidiaries)**

Indicators	2020	2019
<b>Total energy consumption (MWh)</b>	8,435,975.87	8,698,665.78
<b>Direct energy consumption (MWh)</b>	6,981,385.04	7,395,279.24
<b>Petrol</b>	196,100.37	237,831.29
<b>Diesel</b>	6,101,731.29	6,494,251.88
<b>Natural gas</b>	620,548.62	603,926.49
<b>Coal</b>	5,408.06	11,535.04
<b>Liquefied petroleum gas</b>	9,333.15	825.50
<b>Raw petroleum</b>	10,767.73	11,282.72
<b>Other Energy</b>	37,495.82	35,626.32
<b>Indirect energy consumption (MWh)</b>	1,454,590.83	1,303,386.54
<b>Electricity</b>	1,293,611.43	1,137,170.93
<b>Heating Power</b>	160,979.40	166,215.61
<b>The industrial production comprehensive energy consumption (Tons of standard coal /RMB 10,000)</b>	0.266	0.273

Notes:

1 Energy consumption data is calculated according to the consumption of gasoline, diesel, natural gas, coal, liquefied petroleum gas, crude oil, electricity, heat and other energy and the conversion factor listed in the national standard of the People's Republic of China of General Principles for Calculation of Comprehensive Energy Consumption (GB/T 2589-2008).

2 Other energy mainly refers to the fuel converted from fossil fuels such as waste oil.

3 The operation of the Company does not involve the use of packaging.

## Clean Production

The Company strictly follows the laws and regulations of the places where it operates, and has formulated the Environmental Protection Management Regulations, Clean Production Management Regulations and Pollution Prevention and Control Management Regulations and other related regulations, clarifying the duties, procedures, content and requirements of cleaner production. We strictly controls the environmental risks in all aspects of the production and operation process, extensively adopts clean energy, carries out air pollution prevention and control, strictly controls waste generation, and properly disposes the waste. In addition, the Company carries out clean production audits to strengthen on-site supervision and promote the establishment of a long-term clean production mechanism.

## Use of Clean Energy

The Company has made intensified efforts in promoting the use of clean energy. It has been committed to the promotion of practical clean production technology, and the implementation of clean energy projects such as grid-powered drilling, grid voltage cracking, gas power, and solar cells to replace high-energy and high-emission equipment and facilities. In production and operation, the Company preferred low-toxic or non-toxic, harmless materials to make drilling fluids, acidized fracturing fluids, etc., to reduce the negative impact on our environment.



▲ Promote the application of clean energy

## Air Pollution Control

During the construction and operation of the project, the Company actively responds to the government's warning for heavy pollution weather, and initiates emergency plans for such warnings to effectively reduce air pollution. We have adopted measures such as increasing the frequency of water spraying, laying dust-proof nets, diesel engine exhaust gas treatment and grid-powered application, etc., to effectively reduce dust and exhaust gas emissions.



▲ Lime digestion greenhouse



▲ Laying dustproof nets in construction sites

## Wastewater Disposal

The Company strictly keeps in line the laws and regulations on pollutant emission, and earnestly implements the relevant standards and regulations for sewage discharge. At the construction site, construction teams at all levels would carry out anti-seepage, anti-overflow, and anti-leakage measures, and strictly implement the centralized treatment of industrial wastewater and domestic sewage. Based on process requirements, we have increased the reuse of industrial wastewater and domestic wastewater, ultimately achieving a reduction in wastewater discharge.

At the operation site, the Company has promoted the implementation of rain and sewage separation, and anti-seepage and diversion measures, to strictly control sewage discharge. In 2020, the Company has promoted the use of environment-friendly toilets on the frontline of production, equipping a total of 591 sets of such toilets. We also provides emergency materials including dirt collection bags, oil dispersants, woven bags, and absorbent felts for the construction sites to respond to environmental emergencies. In the whole year, 526,000 cubic meters of domestic sewage, 255,000 cubic meters of drilling wastewater, and 1.093 million cubic meters of operation wastewater were treated in compliance with relevant regulations.



▲ Centralized treatment of industrial wastewater and domestic sewage

## Waste Disposal

The Company strictly complies with laws and regulations on waste disposal, and actively promotes the recovery and comprehensive utilization of drilling fluid waste while drilling, drilling fluid recycling, pollution-free operation of oil testing, and acid fracturing flowback fluid. At the same time, the Company applies controllable seismic acquisition that is seismic source adaptive, drone line inspection and other technologies to reduce and control pollutant emissions, comprehensively reducing the negative impact of production on the environment.

The Company strictly implements classification for general industrial solid waste, hazardous waste and domestic waste, establishes a record account, and hires qualified companies to recycle various solid wastes. For hazardous waste disposal, the Company sets up temporary storage sites, and conducts monitoring on hazardous waste disposal by external parties to ensure that hazardous wastes are properly disposed of in accordance with laws and regulations.

At present, the waste generated during the operation of the Company mainly includes oil-based drill cuttings and solid waste, of which oil-based drill cuttings are hazardous waste. In 2020, the Company had disposed of 1.636 million tons of general solid waste through harmless treatment or comprehensive utilization; 164,200 tons of oil-based cuttings through thermal analysis and other processes; all in compliance with relevant regulations.



▲ Waste disposal

### Environment-friendly toilet

To build a green enterprise, the Company has independently researched and developed removable "modular environment-friendly toilets", which not only improved the living conditions and environment of grassroots workers in the field, but also had a positive impact on the promotion of rural health and the village living environment. The "modular environment-friendly toilet" adopts a rapid non-gravity-type multi-point collection system for waste, and a special airtight collection and safety odor isolation system to keep the air clean and prevent the spread of pathogens in excrement, and establish a "water-saving vacuum toilet". The facility has the functions of sewage collection, automatic transportation without height difference, remote monitoring on the cloud platform, dry composting, and recycling of water resources, which fully meets the requirements of building green stations at grassroots and green construction.

The use of "environment-friendly toilets" has solved the practical problems of "high frequency of relocation", "long work hours in the field", and "limited maintenance conditions" of grassroots operations, eliminated the impact of water and electricity shortages in the field, and provided construction personnel with convenience. At the same time, it is conducive to saving water, properly disposing of domestic waste, the utilization of waste resources, and helping the building of green enterprise.



▲ Monitoring platform for modular environment friendly toilets



▲ Modular environment friendly toilets

### Practicing the concept of environmental protection in overseas operations

We have strictly implemented "green exploration" overseas. For example, in Saudi Arabia, we adopted the "one-character operation method" in which vehicles drive along the same lane, without leaking a drop of oil. We sent waste engine oil, waste tires and medical waste to designated and qualified plants for disposal. STP sewage treatment equipment was used at the operation site to strictly control the sewage discharge standards, degradable plastic bags were used as the markings of survey lines and recycle pile numbers.



▲ "One-pattern operation method"

▲ "STP" sewage treatment equipment

### Risks and Opportunities of Climate Change

The Company is deeply aware of the increasing impact of global climate change on the oil service industry. While practicing green and low-carbon operations, we have analyzed the risks and opportunities of climate change we face with climate change scenarios, assessed related impacts, and formulated countermeasures.

Risks			Countermeasures
<b>Physical risk</b>	Acute risks: extreme weather such as typhoons and heavy rains	Damage to construction sites, office buildings and equipment, causing asset losses;  Abnormal production affected by equipment damage, employees' inability to work, transportation interruption, etc.;	Formulate emergency response plans for natural disasters, and continuously improve the emergency response mechanism for natural disasters;  Identify potential asset damage and purchase necessary insurance;

	Chronic risks: continuous high temperature, drought, etc.	<p>The rising temperature will require the Company to equip more refrigeration equipment, increasing its operating costs;</p> <p>Employees may not be able to work outdoors for a long time during the hot season, which affects its operational efficiency;</p>	<p>Apply more energy-efficient refrigeration equipment;</p> <p>Scientifically arrange production plans, deploy production organizations, and improve operational efficiency;</p>
<b>Transformation risks</b>	Policy and legal risks	The government may introduce more stringent policies and regulations to mitigate climate change, which may increase the workload of business compliance, and the number of related lawsuits or claims;	Closely monitor changes in environmental laws, regulations and policies and respond in a timely manner;
	Technical risks	Does not identified relevant risks and not apply in time low-carbon technologies, leading to the low-carbon transformation of our products lagging behind peers;	<p>Increase the proportion of new energy use and actively carry out cooperation with peers;</p> <p>Research new cooperation methods in technologies and equipment;</p> <p>Improve the Company's own new technology and new equipment research and development ability;</p>
	Market risks	<p>Market risks - increase in raw material and energy costs;</p> <p>Decrease in demand for fossil fuels;</p>	<p>Build an energy information platform to monitor and analyze energy use, and improve energy management and control capabilities;</p> <p>Increase market development and increase</p>

			the proportion of external market business;
	Reputational risk	Obtain negative feedback from stakeholders due to poor performance in climate change and sustainability.	Enhance the Company's sustainable development capabilities and actively respond to climate change;  Enhance management transparency in relevant aspects and respond to the concerns of stakeholders.

Opportunities		Countermeasures
<b>Resource efficiency</b>	<ul style="list-style-type: none"> <li>• More energy-efficient equipment and construction and technology;</li> <li>• Incentive of supportive policy.</li> </ul>	<ul style="list-style-type: none"> <li>• Actively explore and apply new technologies, new equipment, and new processes to improve resource use efficiency and reduce energy costs;</li> <li>• Identify and respond to government support policies and green projects;</li> <li>• Strengthen the research and development of low-carbon technologies, and continue to increase the proportion of green and low-carbon emission products;</li> <li>• Identify and participate in emerging markets;</li> <li>• Promote the development and utilization of renewable energy.</li> </ul>
<b>Product and Services</b>	<ul style="list-style-type: none"> <li>• Research and development of green and low-carbon products;</li> <li>• Solutions for climate change in the industry.</li> </ul>	
<b>Market</b>	<ul style="list-style-type: none"> <li>• Changes in user preferences and expansion of green market demand;</li> <li>• Increased demand for integrated energy services;</li> <li>• International market access.</li> </ul>	
<b>Adaptability</b>	<ul style="list-style-type: none"> <li>• Energy substitution and diversified solutions;</li> <li>• Participation in renewable energy projects.</li> </ul>	

## Ecological Protection

The Company has paid attention to protecting the environment of the project operation sites and has been committed to applying environment-friendly construction technology, helping the establishment of green and environment-friendly ecological civilization, and contributing to the beautification and greening of the environment.

### Greening barren hills for ecological restoration

The Dongtai Landfill is located in a barren hill on the outskirts of Deyang City and is a key target of local environmental protection and control. Southwest Petroleum Engineering Company actively implemented the "Green Enterprise Campaign", to carry out ecological restoration of the Dongtai Landfill, and transform the landfill and its surroundings into a demonstration area of ecological restoration that integrates agriculture, forestry orchards, ecological fishponds, and livestock breeding bases. Through the treatment of side slope, soil covering of surface, sewage diversion, and gardening, we have restored a total area of 220 acres, turning the Dongtai landfill into a green hill with lucid water, and realizing the transformation from a solid waste dump to an ecological restoration demonstration area.



▲ Before ecological restoration



▲ After ecological restoration

## Quality Control

The Company adheres to the quality policy of "quality should always be the first of all things", keeps in mind the awareness of "great quality", continuously improves the quality of engineering and service, so as to lay a solid foundation for the promotion of comprehensive sustainable high-quality development.

## Improvement of Management System

During the Year, the Company constantly improved its quality management system and promoted the quality standardization. We strictly abided by the Standardization Law of the People's Republic of China and the Metrology Law of the People's Republic of China, revise the Quality Management Measures for Petroleum Engineering Company, Measurement Management Measures for Petroleum Engineering Company and other regulations and systems to provide a systematical and standardized guidance for improving the quality of products, projects and services.

The Company always promotes the standardization of quality management. Through unified standards, design and equipment, the well site layout and equipment configuration are standardized to control safety risks in the production process, reduce potential safety hazards, and improve the quality of engineering operations.

### **Implementation Plan for Wellsite Standardization**

In 2020, the Company launched the Implementation Plan for Wellsite Standardization, which set out the standardization and configuration guidelines for six sites including drilling standardization, to achieve unified wellsite design, equipment, and installation, and build a standardized wellsite working environment.

The Company optimized the allocation of engineering team equipment and other resources, further coordinated the overall market layout, formed three key industrial areas in the west, southwest, and north China, effectively improving its efficiency of resource allocation within the system, and enhancing its service support capabilities and market competitiveness.

## Quality Control of Projects

During the Year, the Company formulated and revised the Malfunction Management Measures for Drilling Engineering, Wellbore Engineering Expert Database Management Measures, Twelve Measures to Strengthen the Control of Complex Malfunction, and Quality Management Measures for Petroleum Engineering Company and other quality management systems to continuously provide scientific guidance on how to improve the quality management.

The Company strictly implements the engineering quality control in entire process. Before the construction of the project, we conduct analysis and design, collect information from adjacent wells, formulate construction design plans and approve these plans level by level, and provide technical details to the construction team; during construction, we strengthen the dynamic management and risk management of key wells, and conduct hierarchical management and level-by-level approvals of downhole faults, provide technical guidance for key wells and wells with complex malfunctions. The Company keeps abreast of the well control and engineering technical work of each unit and operation site through production daily report, weekly report on key wells, and WeChat work groups. It tracks and analyzes more than 20 key wells every day, and keeps track of the actual conditions of on-site construction at any time, conducts analysis and research based on the drilling engineering design to ensure that risks are under control during construction.

In order to strengthen the management and control of engineering failures, the Company reports the quality of the engineering quarterly, covering the complex failures of all regional companies and drilling companies, and ranks them by their timeliness of resolving the complex failures, to supervise and urge each unit to conduct special analysis and rectify existing problems. In response to failures, we follow "one well, one policy", to carry out discussion on treatment measures, conduct cause analysis from management, tools, geology, design and other aspects afterwards, and summarize experience and lessons, forming a closed-loop of quality control.

The Company promotes the construction of information systems and launches an information-based production and operation platform, through which, the Company quantitatively evaluates the timeliness, accuracy, and standardization of production operations, comprehensively compare the construction conditions of various units, discovers potential problems in time, and then supervises each unit to continuously optimize the team structure, strengthen technical support, and strengthen quality management.

An excellent professional team is the foundation to ensure the quality of the project. In 2020, the Company formulated the Opinions on the Size of Major Professional Teams of Petroleum Engineering Companies. By cutting the size of major professional teams, optimizing the structure of qualified construction teams, the Company has optimized resource allocation, and improved efficiency and benefits, as well as quality assurance.

## **Service Quality Management**

In order to fully understand customer needs, the Company continuously optimizes the feedback collection mechanism, applies the production scheduling system and market information management system, to comprehensively improve the efficiency of customer feedback reception, complaints and suggestions processing and customer return visits, and to effectively improve service quality.

During the Year, the Company paid return visits or normal visits to customers in the system, used strategic cooperation resources to implement the after-sales service mechanism. We also constantly improve the supervision system, by which, in project decision-making, we establish the ledgers covering basic situation of projects decided by regional (professional) companies and projects decided by professional business units, so as to achieve all-round management and supervision of market bidding. At the same time, the Company strengthens process control, holds accountability for violations, and strives to improve service quality throughout the entire process. The Company attaches great importance to the improvement of service quality and efficiency by accurately identifying customer needs, focusing on coordinating the guarantee of internal key market teams to provide high-quality services with the best team, the best equipment, and the most applicable technology.

### **"Quality Day" and "Quality Month" campaigns**

In order to enhance quality awareness and strengthen the construction of quality culture, the Company has organized activities such as "Quality Day" and "Quality Month" in 2020. The Company extensively carried out quality publicity, organized quality management knowledge competitions, and other quality-themed competitions, focusing on the theme of "Quality is the life of an enterprise" and considering the actual situation of fighting the epidemic, so as to fully implement quality responsibilities, and guarantee the quality of product, service and engineering. The development of quality-related campaigns has further enhanced the quality awareness of all employees, established the sense of responsibility of "everyone is responsible for quality", deepened the concept of strengthening a company by promoting its quality, forming an atmosphere in which everyone pursues quality and everyone creates quality and all employees are encouraged to independently practice the concept of "quality first, benefit first", thus promoting the Company's comprehensive sustainable and high-quality development.



▲ Promotional slogan and promotional poster for quality month event

## **Operation in Compliance with Laws and Regulations**

Compliance operation is the foundation of the Company's steady development. To guarantee the Company's sustainable development, the Company strictly follows national laws and regulations, carries out in-depth construction of party conduct and integrity, implements intellectual property management, observes customer information security regulations, and improves supplier management system.

## **Integrity Development**

The Company always attaches great importance to integrity building, by strictly abiding by the Audit Law of the People's Republic of China, Provisions on the Integrity of State-owned Enterprise Leaders, Accountability Regulations of the Communist Party of China and other relevant laws and regulations. In addition, the Company forms the Working Rules of the Commission for Discipline Inspection and other regulations to actively carry out daily supervision and strengthen the implementation of accountability system.

The Company constantly improves its supervision and management mechanism. The supervisory committee revises the list of daily supervisory responsibilities and supervises the relevant departments performing their duties according to orders. At the same time, the Company organizes meetings of the supervisory committee from time to time to communicate and exchange oversight findings and develops extended governance for prominent problems. In 2020, the Company has carried out 11 major supervision projects including capital risk investigation, special supervision of compliance management, and selection and appointment of cadres. The Company has integrated the supervisory forces of various districts across the country to establish cooperation areas for joint prevention and governance of integrity risks in Dongying and Hubei. At the same time, the Company actively explores the sharing of external supervision resources, establishes a daily supervision mechanism for the prevention and governance of integrity risks with the Northwest Bureau, promotes joint education, key link control and disciplinary review joint mechanisms, to jointly create a clean and transparent external market environment.

The Company has established channels for reporting letters and visits, including reporting telephone numbers, reporting mailboxes, and reporting boxes. The Company has formulated special handling procedures and strictly followed the principles of “centralized management, collective deliberations, scientific authorization, full-process tracking, and closed-loop operation” to register reported cases, verify clues to the problem, and promptly report the results to the real-name reporter. In this process, the Company strictly keeps the personal information of reporters confidential.

The Company conducts anti-corruption training every year, and carries out integrity education through document notifications, holding warning education conferences, and watching warning education videos. In 2020, the Company compiled the Regulations and Discipline Manual to sort out typical cases, publicize and implement disciplinary

regulations, and dynamically displayed them through the Company's website, to enhance employees' awareness of anti-corruption. During the Year, the Company carried out two employee anti-corruption education and training activities.

## **Protection of Intellectual Property Rights**

The Company strictly complies with the Trademark Law of the People's Republic of China, the Patent Law of the People's Republic of China and other laws and regulations. The Company also formulates the Intellectual Property Management Measures and other rules and regulations to provide standardized guidance for the application and use of intellectual property rights. While protecting self-owned intellectual property rights, we try to avoid infringement of other parties' intellectual property rights.

In order to strengthen the management of technology trade, the Company formulated the Administrative Measures for the Technology Trade of Petroleum Engineering Companies (Trial) during the Year to expand the application scope of independently developed technologies and regulate the transfer, licensing, services and consulting activities related to technologies.

The Company constantly promotes the commercialization of technological achievements and improved the efficiency of commercialization to boost its productivity. In 2020, the Company formulated the Administrative Measures for Promoting the Commercialization of Scientific and Technological Achievements (Interim) and the Plan for the Commercialization of Scientific and Technological Achievements of the Company in 2020, to focus on promoting the industrialization and commercial application of medium- and high-end technologies and equipment including node seismic instruments, SINOMACS ATS rotary steering system, drilling parameter meters, key drilling fluid additives, high-power downhole tractors.

During the Year, the Company applied for a total of 760 patents, including 361 invention patents; obtained 505 authorized patents, including 75 invention patents.

### **Research on Patent Strategy of Tackifier for Drilling Fluid and Filtration Reducer for Drilling Fluid**

In 2020, the Company focused on the research on patent strategy of Patent Strategy of Tackifier for Drilling Fluid and Filtration Reducer for Drilling Fluid to keep abreast of the technology status and development trend, formulate intellectual property R&D, application and protection strategies, guide R&D direction, and protect innovation results.

## **Protection of Information Security**

The Company strictly follows the Network Security Law of the People's Republic of China, Management Measures for the Information Security Protection and other relevant laws and

regulations in its information security management. The Company has added a confidentiality clause to its management regulations, requiring regional (professional) companies to strictly protect the source and content of sensitive confidential information when specifically implementing customer information management. The Company has strengthened the information security management in the production and operation process to prevent the leakage of information and data of suppliers, partners and customers. The Company regularly supervises and inspects the confidentiality of secret-related personnel, and handles violations and leaks.

## **Management of Supply Chain**

The Company continued to standardize supplier management to protect the legitimate rights and interests of suppliers. To this end, we have formulated relevant regulations and systems such as the Management Measures for Material Supply, Management Measures for Material Purchase, Management Measures for Material Purchase and Supply Resources, Management Measures for the Supervision and Random Check of the Quality of Purchased Materials, based on which, all regional (professional) companies formulated implementation rules to jointly improve the Company's supply system.

In the supply chain management system, the Company has established a complete dynamic management mechanism for admission, selection, review, information feedback and withdrawal. In the daily management process of suppliers, we publicized compliance requirements to suppliers and required them to be honest and operate in accordance with the law. We have identified suppliers' environmental and social risks, and made suppliers' qualifications in health, safety, and environmental protection as one of the conditions for admission. At the same time, the Company regularly conducted supplier qualification reviews and on-site inspections, and selected suppliers based on such results.

The Company continues to promote green procurement, and the "green corporate campaign", i.e. purchasing environment-friendly and low-carbon materials, using green logistics and green packaging. In 2020, the Company formulated the Management Measures for Green Procurement of Materials (Trial) and Management Regulations for Green Procurement of Materials, etc., for regional (professional) companies to actively implement green procurement in their operation. For example: the Shengli engineering project gave priority to purchasing high-efficiency products and urged suppliers to use packaging that meets environmental protection requirements when selecting suppliers; the Southwest engineering project promoted "small-to-large" green packaging in the procurement of lubricants and grease, reducing packaging waste; the East China project has increased the promotion and application of environment-friendly new materials in camping houses and environment-friendly toilets.

## **Staff Management**

The Company regards employees as the cornerstone of corporate development, adheres to the core values of "being people-oriented, and pursuing good quality, innovation and win-win results", and has always been committed to working with employees to build a diverse and inclusive corporate culture. We protect the legitimate rights and interests of employees, establish a fair and competitive salary and welfare system, focus on the long-term training of employees, and enable the development and promotion of employees.

## **Legal Employment**

The Company strictly kept in line with the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China, the Law of the People's Republic of China on Prevention and Control of Occupational Diseases, Special Provisions on Labor Protection for Female Employees and other relevant laws and regulations, and implemented the philosophy of equality, mutual trust, consultation, and win-win, to establish a legal employment relationship with each employee.

The Company eliminated all inequality and discrimination caused by ethnicity, race, gender, age, family status and other factors, and protected the rights and benefits of female employees during pregnancy, childbirth, and breastfeeding. We respected the customs and culture of ethnic minorities and ensured that employees of ethnic minority can enjoy their traditional festivals. During the Year, the Company did not engage in violations of laws and regulations such as employment of child labor and forced labor, employment discrimination, gender discrimination, and occupational discrimination.

At the same time, we actively responded to the country's call for "stabilizing jobs and expanding employment", integrated employment expansion with poverty alleviation, increased the recruitment of college graduates by recruiting graduates from poor and designated areas called for assistance.

### Optimization and revitalization of human resources

In order to fully revitalize internal resources, the Company has scientifically formulated the implementation plan for optimizing and coordinating human resources, and the Incentive Measures for the Coordination and Optimization of Employment, to promote the orderly flow of personnel through formation, modularization, and flexibility; supervised and urged all units to be strictly follow the staff configuration requirements of the grass-roots team, under which grass-roots teams should be equipped with key position personnel and sufficient production personnel to ensure legal employment and work safety. During the Year, the Company actively guided the flow of internal talents, increased the proportion of professional and skilled operation teams, optimized the employment structure, and laid a solid foundation at grassroots.

Employment Data		
Indicator		2020
Type of employment	Management personnel	7,731
	Professional personnel	31,401
	Skilled operators	32,604
By gender	Male	61,107
	Female	10,629
By age	35 and below	8,414
	35-45 (excluding 45)	22,312
	45-50	19,394
	50 and above	21,616
By region	China	67,466
	Overseas	4,270

Note: Data statistics include the headquarter, branches and subsidiaries of Sinopec Oil Services.

## **Salary and Benefits**

The Company has built a scientific and fair salary system accordance with the Company's operating conditions, providing employees with a fair market-competitive salary and benefits. In 2020, the Company constantly improves the remuneration incentive mechanism, revises the Performance Appraisal and Work-Performance-Linked Appraisal Measures, strengthens the implementation of performance appraisal, and emphasizes the combination of organizational performance and employee performance, in order to mobilize their motivation and stimulate their enthusiasm at work.

The Company attaches great importance to employee welfare. On the basis of meeting the basic social security and welfare standards of countries, regions and overseas places where we operate, we provide employees with health checkups, psychological consultations, corporate annuities, supplementary medical insurance and other benefits; for overseas expatriates, in addition to the benefits mentioned above, they have an extra holiday when they return to their home country.

## **Employee Activity**

We advocate work-life balance by creating a happy and heart-warming workplace and providing employees with a platform with variety of leisure activities. In 2020, we have organized a series of employee activities, including but not limited to sports activities of table tennis, badminton, basketball games and group mountain climbing, cultural activities of poetry reading, speech contests, and entertainment activities of employees' office exercises, walking, in which the majority of employees actively participated.

At the same time, the Company organizes dinners on special holidays, and prepares catering according to the customs and beliefs of employees of different nationalities to deliver holiday greetings and warm care. Through a variety of employee activities, we enhance collective cohesion, increase employees' sense of belonging, and build a harmonious corporate culture.



▲ Badminton competition



▲ Mountaineering Activity of "Continuous Tackling and Creating Effects Cup"



▲ Office exercises



▲ Festive dinner

## Employee Development

The Company has attached great importance to the long-term development and continuous training of employees, firmly established the concept of talent development, and actively implemented the Company's talent training strategy. We constantly improve the talent promotion system to point out the direction for employee development, carry out job competition and competitive selection, and optimize the incentive mechanism to stimulate innovation and enthusiasm, thereby promoting the common development of talents and the Company.

We have provided employees with a wealth of training resources and carried out training activities for talents, to comprehensively improve their skills, knowledge and management capabilities. The Company has established a training center to provide systematic support for employee training. We use the training center as a training ground for actual combat training, in order to inherit the spirit of petroleum workers, consolidate its own technical skill, and build an iron army of petroleum engineering.

The Company has promoted and strengthened learning through mobile terminal. With scientific and technological means, we promoted MOOC, video and telephone conference

system, Zhongyuan Project's "Tiejun E School" and other mobile terminal learning channels, improved the remote training system to improve the efficiency of remote training. During the epidemic, in order to ensure the effective development of employee training, we expanded online and offline training methods to carry out systematic training for employees.

The Company focuses on key talent training and demonstration training for talents in some key positions, while its affiliated organizations focuses on job adaptability training for frontline personnel, training for various qualifications and training for talents in key positions. In 2020, more than 48,000 people have been trained.

#### **HSSE management professional English training courses for international petroleum engineering drilling and workover**

In order to assist in the construction of the HSSE management system for overseas drilling and workover projects, the Company launched a professional English training course for HSSE management in international petroleum engineering drilling and workovers, and hired a team of teachers composed of full-time and part-time teachers who have been engaged in professional English training for many years and have excellent teaching quality to conduct English teaching, in which Duan Xinsen, HSSE director of Saudi Aramco, was invited to explain the investigation into and report on accidents. Zhang Guangqin, chief expert of the Zhongyuan Oilfield Training Center, systematically explained the HSSE management system of overseas drilling and workover projects, related laws and regulations, and process management and other knowledge modules. A combination of DingTalk live broadcast, conference seminars and online guidance and answering questions in the training course was adopted to achieve the simultaneous training of English language and professional skills, and to effectively improve the foreign language skills of the staff.

## Shengli Petroleum Engineering Company organized 24 online expert lectures and master lectures

In order to improve the professional knowledge of skilled operators and consolidate the foundation of operating skills, Shengli Petroleum Engineering Company invited 15 skilled masters to conduct training on professional knowledge and operating skills on drilling, downhole, logging, mud logging and other related jobs. In 2020, Shengli Petroleum Engineering Company held 14 "expert lectures", training nearly 8,000 trainees; and 10 "masters lectures", training nearly 4,000 trainees. Among them, more than 8,000 engineering technical cadres, drillers, and technicians or above have been trained, which has effectively improved the professional quality and innovation ability of managers and technicians at all levels.



▲ Expert lectures



▲ Master lectures

### **Zhongyuan Petroleum Engineering Company carried out mobile phone trainings with "Tiejun E School"**

The Company actively has explored the learning and training model of "Internet + mobile + training". Zhongyuan Petroleum Engineering Company has innovated and developed the "Tiejun E School" mobile online training platform to realize the integration of online learning, self-check and self-test, examination and assessment, statistical summary, evaluation and analysis and other functions, providing employees with a more convenient and comprehensive training method. As of the end of December 2020, a total of 18,097 people had registered, including all front-line employees, 3262 exams posted, with 80,772 people taking, and 1.76 million individual self-test exams were conducted. With its sound platform functions and abundant training resources, "Tiejun E School" has become the first-choice platform for training and assessment of front-line employees, and it will continue to promote the steady improvement of the overall quality of the team.



▲ "Tiejun E School" mobile phone training and Internet training

## Community Investment

The Company has always adhered to "integrity norms, win-win cooperation, and giving back to the local area", and actively fulfilled its corporate social responsibility. We have paid attention to community development, given back to the community, and enthusiastically participated in public welfare undertakings such as environmental protection, poverty alleviation, voluntary activities and emergency rescue. In overseas regions, we have also actively practiced social responsibility and carried out public welfare activities to demonstrate corporate citizenship.

During the Year, the Company has donated a total of RMB910,000 to external charities and invested RMB27,238,300 in poverty alleviation.

## Environmental Public Welfare

The Company carried out public welfare activities in environmental protection by taking practical actions to protect the environment, in order to facilitate the construction of a green and environment-friendly ecological civilization and contribute to the beautification and greening of the environment.

### Protect the green home

The Company has been committed to cultivating young people's green environmental protection concept, raising their awareness of safety and environmental protection, caring for the environment, saving resources, and protecting green homes. On May 30, the Youth League Committee of Wuhan Prospecting Company organized its members to participate in the theme activity of "Aspirational Youth ·Green Environmental Public Welfare" in Jiangnan Oilfield, in which the young people cooperated with community sanitation workers and cleaners to clean fallen leaves and weeds to serve the residents.



▲ "Aspirational Youth ·Green Environmental Public Welfare"

## Community Public Welfare

The Company has been dedicated to improving people's livelihood, actively carrying out poverty alleviation, volunteer services and emergency rescue, etc., to extend love, pass on warmth, and work with others to build a harmonious society.

### Poverty Alleviation

The Company actively responds to the Group's Notice on Further Strengthening Poverty Alleviation through Consumption, establishes close ties with poverty-stricken areas to promote poverty alleviation. Companies in various regions have carried out paired assistance with certain areas, signed joint construction agreements, and clarified assistance plans and measures. At the same time, the Company organized the purchase of poverty alleviation materials to promote local economic development and provided voluntary science popularization for poverty-stricken areas to help their education development.

#### **Promote science popularization for poverty alleviation -- popularize science on campus in northern Tibet**

On September 29, 2020, the party branch of an earthquake team in northern Tibet visited an elementary school in Qingdu Township, Xietongmen County, Rikeze City, and gave a special lesson on the popularization of seismic exploration knowledge. The party branch started with interesting scientific stories such as "lightning first, thunder second", "I do CT for the earth", and used easy-to-understand methods to let local residents understand the work process of the construction team. This lecture stimulated the enthusiasm of Tibetan students in learning, strengthened local integration, and further deepened the profound friendship between the Han people and Tibetans. For poverty alleviation, we must put knowledge first. We will continue to impart knowledge to the poor and lay the foundation for poverty alleviation.



▲ Popularize science on campus in northern Tibet

## Volunteer Activity

The Company persists on promoting voluntary activities to convey warmth, upholding traditional virtues, and helping the construction of civilized cities. During the Year, we organized activities such as sending blessings and warmth to the elderly in the community, popularizing petroleum science knowledge on campus, and volunteering for farming to spread civilization, dedicate love, and serve the society with practical actions.

### Jiangsu drilling volunteers served the community

The "Diamond Flower" volunteer service team of Jiangsu Drilling Company has been entitled the name of "my favorite volunteer service team in Jiangsu Province". Adhering to the concept of "in building city civilization, volunteers are the first", the volunteer service team took the lead in organizing the Youth Volunteer Service Express in the Shaobo Cooperation Zone of the Communist Youth League to enter into the community, serving nearly a thousand people. During the Year, the team carried out a volunteer activity themed "Caring Companion, Warm Sunset" to send blessings to the elderly in the community, convey warmth, and show a good corporate image, which was widely praised.



▲ Jiangsu drilling volunteers served the community

### **Volunteer farming**

The party branch of North China Petroleum Engineering Company made use of production intervals to organize "Youth Commandos" to walk into the farmhouse, and volunteered to help local villagers carry feed, repair courtyard walls, and thresh corn, which further harmonized the Company-local relationship and won praise from villagers.



▲ Volunteer service of helping fellow villagers to dry food by young people

### **Emergency Rescue**

The Company has done a lot to contribute to the society and deliver warm care. We leverage our own technical advantages to participate in the rescue of fires, mine disasters and other emergency accidents by providing technical support and solving difficulties.

#### **Mine rescue**

Shengli Petroleum Engineering Company has participated in the rescue of the Hushan gold mine accident in Qixia, Yantai. On January 10, 2021, an explosion occurred in the Wucailong gold mine under construction in Xicheng Town, Qixia, Shandong Province due to illegal storage and use of civil explosives and illegal fire operations at the wellhead. Shengli Petroleum Engineering Company sent experts immediately to support the rescue. Arriving at the site, the Company's rescue team formulated technical solutions for drilling speed increase, trajectory measurement, directional control, and complex prevention in time, and effectively solved the problems of slow drilling speed, stuck drilling, and water production due to complex geological conditions in the mining area. Due to the lack of special equipment at the rescue site, the Company deployed drilling tools, directional instruments, drill bits and other materials overnight to fully support the rescue. After the unremitting efforts of all rescuers, 11 trapped miners were safely rescued from 11:13 to 15:18 on the 24th. This rescue has fully demonstrated the Company's spirit of actively giving back to the society and conveyed the care and love closely connected with the local community.

## Fire rescue

When fires in surrounding communities suddenly occurred, the Company actively carried out emergency rescue, effectively ensuring the safety of people's lives and property.

On March 26, employees of the acid fracturing team of the Southwest Petroleum Engineering Company's Downhole Operations Branch were on their way to the construction site but discovered that a farmer's house was on fire. With great courage, these employees carried out rescue in time, overcame the difficulties, and put out the fire completely after more than half an hour. On June 5, a wildfire broke out near the fracturing site of the second section of Well Weiye 39-4HF. After discovering the fire, the fracturing team of the Downhole Operation Branch of Southwest Petroleum Engineering Company immediately started firefighting and quickly arranged for deployment. The rescue personnel worked closely together, complemented each other based on the labor division according to the emergency drill procedures, laid the fire hoses in place quickly, so that the wildfire was put out soon.



▲ Firefighting at farmer's house



▲ Wildfire rescue

## Overseas Responsibility

The Company also actively performs its social responsibilities and obligations overseas. We respect the customs and religious beliefs of the place where we produce and operate. We promote the integration of multi-ethnic cultures and live in harmony with local people. We care about people's livelihood, maintain good communication with local communities, and practice overseas social responsibilities to pass on warmth.

### **Pakistan project "sending medical service to the community"**

The Company's Pakistan project team carried out an activity of "sending medical service to the community". In order to deal with the traffic difficulties and diseases caused by the extreme cold weather in Huzdal, Balochistan, our local construction team organized personnel to reach the countryside and arranged medicines, equipment and ambulances to treat local residents, helping local residents solve the difficulty of having access to medical care caused by bad weather conditions.



▲ Sent medical service to the community

## **Epidemic Prevention and Control**

At the beginning of 2020, the rapid spread of the Coronavirus Disease (COVID-19) has brought pain and challenges to the world. In order to fight the epidemic, the Company established an epidemic prevention and control team and a related system as soon as possible to comprehensively guarantee the health and safety of employees at home and abroad. Besides, the Company adopted a scientific mode to promote the resumption of work and production. Meanwhile, the Company demonstrated its corporate citizenship by actively participating in the front line of epidemic prevention and control, and assisted the global fight against the epidemic by supporting the work of frontline medical staff and donating money and materials.

During the Year, the Company's donated a cumulative amount of RMB14,405,600 for the epidemic prevention and control.

## **Health and Safety Assurance**

The Company put the protection of employees' lives and safety as its top priority. Faced with the outbreak of the epidemic, the Company quickly established a three-level response mechanism for dynamic monitoring of abnormal situations, daily reports of major situations, and zero-infection reports of epidemic, and issued emergency management systems such as the Emergent Notice on Further Strengthening the Prevention of Novel Coronavirus Epidemic to provide a comprehensive guidance on epidemic prevention and control.

In terms of epidemic prevention and protection strategies, we adjusted related measures in a timely manner based on changes in the epidemic development situation. At the beginning of the epidemic, we ensured the supply of protective materials for employees in an all-round way, regularly disinfected office areas, construction sites, and living camps, and adopted remote working mode to minimize unnecessary outings for employees. As the epidemic was gradually brought under control, we strictly abided by the requirements of local governments and arranged reasonable resumption of work. Upon the resumption of work, we also implemented a series of prevention and control measures to protect employees' physical and mental health, including but not limited to: strengthening the check of on-site workers' health, establishing health cards for all employees, and conducting health monitoring for all employees; strengthening publicity and education on epidemic prevention and control, and strengthening management on individuals' daily behavior, implementing personal protection requirements, and handling abnormal situations; strictly implementing dynamic monitoring of personnel flow, strengthening the control over the entry and exit of on-site personnel to reduce potential infection risks and work with employees to prevent and control the epidemic; providing employees with a 24-hour psychological counseling hotline to ensure their mental health and eliminate their anxiety and panic.

### **Guarantee protection materials supply**

In order to ensure the timely supply of epidemic prevention materials for employees, the Company immediately established a special team to ensure the supply of epidemic prevention materials. This team was responsible for collecting information on the Company's epidemic prevention and control material inventory from all over the country every day, and prepared materials in a timely manner to ensure sufficient supplies. In 2020, the Company has distributed 9.59 million masks, 316,000 bottles of disinfectant and alcohol, and more than 6,000 thermometers to employees to ensure that the prevention and control of the epidemic could be carried out in a smooth and orderly manner.



In order to ensure the orderly operation of the Company's overseas epidemic prevention and control, we have always paid attention to the progress of overseas epidemic, strictly implemented the grid management of epidemic prevention and control, in order to ensure the orderly operation of the Company's overseas epidemic prevention and control. At the same time, for returning employees, we strictly followed national and local policy requirements on isolation, nucleic acid testing, and antibody testing, to avoid overseas import risks.



▲ Disinfection of certain places



▲ Strengthening the safety protection of the construction site

### **Community Donations**

The Company has bravely assumed social responsibility during the critical period of the epidemic prevention and control. It sent protective materials and warm care to the medical staff struggling on the front line to fully support the epidemic prevention and control, and carried out a series of volunteer service activities to effectively support the local government and community in epidemic prevention and control, to enhance the

relationship between enterprises and local communities, and to demonstrate the sense of responsibility of state-owned enterprises.

### **We were in action to guard medical staff**

In order to ensure the supply of materials for front-line personnel in the fight against the epidemic, we followed the principle of being "voluntary and open" to raise funds for medical supplies at the frontline. In 2020, the Company donated a total of 35 boxes of 1648 medical isolation gowns to Hubei Third People's Hospital, passing on its profound care to the front line of medical workers, and composing the song of doctors' benevolence and fighting against the epidemic.



▲ Donate medical supplies



▲ Employees' active participation in donations to fight the epidemic

### **Volunteer service activity of “supporting epidemic prevention and control”**

The Company actively organized volunteers from various affiliated organizations to carry out anti-epidemic actions. Through the establishment of a volunteer service team, the Company communicated with the community and local government departments thoroughly to assist in the community voluntary services and epidemic prevention and control. For example, Petroleum Engineering Construction Company has organized volunteer service activities involving the Company's 10 grassroots organizations and more than 200 employee volunteers throughout the year. Wuhan Prospecting Company organized a volunteer team of party members to deliver vegetables to the quarantined community.



▲ Volunteer served the community



▲ Party members sent vegetables to quarantined communities

### Anti-epidemic linkage at home and abroad

During the outbreak of the domestic epidemic, the Company's overseas institutions actively cooperated to support the domestic anti-epidemic. The Company's Pakistan construction project department prepared 20,000 masks and protective glasses from the local area and handed them to the Karachi Chinese Enterprise Association in Pakistan. These materials were delivered to Wuhan by special planes, which was the hardest hit area of epidemic, to help the motherland fight the Covid-19 epidemic.

At the same time, in response to the situation that employees were unable to return to the country after the outbreak of the overseas epidemic, the Company actively carried out a series of actions to extend care for employees, including online psychological counseling lectures and seminars, and visits and condolences to the family members of overseas employees, etc., to encourage employees who stick to their posts during the epidemic, and make them feel the warmth in the corporate family.



▲ Paid visits to employees' family members



▲ Overseas anti-epidemic supplies

## Appendix: Environmental, Social and Governance Reporting Guide

Issues	Description of Issues	Corresponded chapter in the report
Subject Area A. Environmental		
Aspect A1: Emissions		
General Disclosure	Information on:  (a) the policies; and  (b) compliance with relevant laws and regulations that have a significant impact on the issuer  relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Environmental Management
KPI A1.1	The types of emissions and respective emission data.	Environmental Management
KPI A1.2	Greenhouse gas emissions total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Management
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Management – Clean Production
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Management – Clean Production
KPI A1.5	Description of measures to mitigate emissions and results achieved.	Environmental Management – Clean Production
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	Environmental Management – Clean Production
Aspect A2: Use of Resources		
General disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Environmental Management – Saving Resources

KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Environmental Management – Use of Resources
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Environmental Management –Saving Resources
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	Environmental Management –Saving Resources
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Environmental Management –Saving Resources
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not applicable
Aspect A3: The Environment and Natural Resources		
General disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	Environmental Management – Clean Production
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Environmental Management – Clean Production
Subject Area B. Social		
Employment and Labour Practices		
Aspect B1: Employment		
General Disclosure	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer</p> <p>relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.</p>	Staff Care
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	—
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	—
Aspect B2: Health and Safety		

General Disclosure	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer</p> <p>relating to providing a safe working environment and protecting employees from occupational hazards.</p>	Occupational health and Safety Assurance
KPI B2.1	Number and rate of work-related fatalities.	—
KPI B2.2	Lost days due to work injury.	—
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	Occupational health and Safety Assurance
Aspect B3: Development and Training		
General disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Staff Care—Development and Training
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	—
KPI B3.2	The average training hours completed per employee by gender and employee category.	—
Aspect B4: Labour Standards		
General disclosure	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer</p> <p>relating to preventing child and forced labour.</p>	Staff Care—Employment
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	—
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	—
Operating Practices		
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Operation in compliance with laws and regulations

		- Management of Supply Chain
KPI B5.1	Number of suppliers by geographical region.	—
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	—
Aspect B6: Product Responsibility		
General Disclosure	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer</p> <p>relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.</p>	Quality Control
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Not applicable
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	—
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Operation in Compliance with Laws and Regulations - Protection of Intellectual Property Rights
KPI B6.4	Description of quality assurance process and recall procedures.	—
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Operation in Compliance with Laws and Regulations - Protection of Information Security
Aspect B7: Anti-corruption		
General Disclosure	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer</p>	Operation in Compliance with Laws and Regulations – Integrity Development

	relating to bribery, extortion, fraud and money laundering.	
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	—
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Operation in Compliance with Laws and Regulations – Integrity Development
Community		
Aspect B8: Community Investment		
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Community Investment
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Community Investment
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Community Investment