Green development and energy delivery
Facilitating the growth momentum of customers
Empowering people to enjoy a better life
About the Report

This is China National Petroleum Corporation's 15th annual Corporate Social Responsibility Report since the establishment of the reporting system in 2006. This report reflects our accomplishments in fulfilling our economic, environmental and social responsibilities in 2020. Hereby, we make the following statement on relevant information:

Reporting company: China National Petroleum Corporation (CNPC)
Alternative reference: China National Petroleum Corporation is also referred to in this report as “CNPC”, “the Company”, “we” and “us”.
Timeframe: From January 1 to December 31, 2020. Given the continuity and comparability of the disclosed information, part of the information may be taken forward or backward as necessary.

Reporting period: This is an annual report. The 2019 Corporate Social Responsibility Report was issued on May 19, 2020.

Reporting principles: Objective, standardized, honest, transparent and substantive.

Report content: Our accomplishments in fulfilling our economic, environmental and social responsibilities.

Information sources: The Company’s official documents, statistical reports and statistics related to the Company’s subsidiaries. All the information has been reviewed by the Company’s management and its subsidiaries.

Report improvements: The Report adds some key topics, such as CNPC’s path of green and low-carbon transition and digital and intelligent development. In order to showcase our social responsibility performance in a more objective, comprehensive and prioritized manner, we made investigations on the CSR practices, verified the authenticity of cases, extensively solicited opinions and suggestions and actively responded to the concerns of all stakeholders.

References: The Report is prepared according to the Guidelines on Improving Central Enterprises' Social Responsibility Performance issued by the State-owned Assets Supervision and Administration Commission (SASAC), the Sustainability Reporting Guideline (G2016) published by the Global Reporting Initiative (GRI), the Oil and Gas Industry Guidance on Voluntary Sustainability Reporting (2020) co-published by the International Petroleum Industry Environmental Conservation Association (IPIECA) and the American Petroleum Institute (API), the ISO 26000 Guidance on Social Responsibility by ISO, the 2030 Agenda for Sustainable Development by UN, the Guidance on Social Responsibility Reporting (GB/T 36001-2015) by China National Standardization Management Committee, and the China CSR Reporting Guide for Petrochemical Industry (CASS-CSR4.0) by CASS.

Language: The report is published in Chinese and English. In case of any discrepancy, the Chinese version shall prevail.

Access to the report: You may send email to csr@cnpc.com.cn or call 86-10-59984395 for a hard copy. It is recommended that you download the PDF version of this report at www.cnpc.com.cn.
Chairman’s Message

I feel pleased to present the CNPC Corporate Social Responsibility Report 2020.

The year 2020 was an extremely unusual and challenging time. Due to the outbreak of the COVID-19 pandemic, various risks and conflicts were aggravated and intertwined, such as the deep economic recession, plummeting oil prices, sharp shrinking of oil and gas demand, intensified geopolitical instabilities and COVID-19's adverse impact on overseas markets. All these had a huge impact on CNPC's business operations. In the face of unprecedented risks and challenges, we endeavored to make progress while ensuring stability, seek opportunities and countermeasures, implement the strategies of resource, market, internationalization and innovation, and make effective performance in epidemic prevention and control, work resumption, business operations, reform and innovation, and other aspects. With such efforts, we achieved unusual operating results. In an unusual year, we brought the "13th Five-Year Plan" to a successful conclusion, and took a step forward on the way to building a world-class integrated energy corporation.

Developing sturdily our main businesses to significantly safeguard China's national energy security

Under the dual pressure of low oil prices and COVID-19, we remained unswervingly committed to China's national energy security strategy, and carried out special campaigns for our main businesses to maintain our quality and benefits in oil and gas industry. In 2020, we yielded fruitful results in oil and gas exploration and development with two historic leaps: oil and gas equivalent production exceeded 200 million tons. Our refining and chemical restructuring paid off, oil and gas marketing was comprehensively strengthened, and business support capabilities and competitiveness were enhanced. We effectively guaranteed the market supply, while smoothly operating the industry supply chain. We were more confident and capable of safeguarding China's national energy security.

Promoting thoroughly the modernization of our governance system and capabilities to enhance our governance performance

Modernization of corporate governance system and capabilities is the key to comprehensively deepening the reform of state-owned enterprises and improving the modern enterprise system. It is also badly needed for effective response to risks and inherently indispensable to achieve strategic goals. We optimize our system and mechanism that perfectly combine Party leadership and corporate governance, improve our strategic system, management system and organizational system, and build governance system and capabilities in line with our development goals, so as to comprehensively enhance our governance performance.

In 2020, we continued to deepen reform and innovation, with new progress and breakthroughs made in key areas. We basically completed the top-level design of our governance system. We developed and implemented a three-year action plan for the reform, adjusted and optimized functions of some headquarters divisions, smoothly completed the restructuring and transfer of pipeline assets, and basically completed the task to relieve our obligations to operate social programs. We devoted great efforts in research and development of key and core technologies. We participated in the "Mitra coal indirect liquefaction technology innovation, development and industrialization" project, which won the first prize of the National Science and Technology Progress Award. We accelerated the digitalized and intelligentized enabling transformation, in order to facilitate cost reductions and efficiency improvements, coordinated sharing, constant innovation, risk prediction and control, and smart decision-making throughout the corporation.

Pushing for the green and low-carbon transition for a clean, beautiful world

As the world is moving towards a landscape of diversified, clean and low-carbon energy resources, green and low carbon development holds the key to the future of energy. Grasping the opportunities arising out of the low-carbon transition in the energy industry, we integrated green and low-carbon development into the corporate strategy for the first time. We strive to build a "Low-Carbon Energy Ecosystem" fully integrating fossil energy and clean energy. We aim for achieving peak carbon dioxide emissions around 2030 and "near-zero" emissions by around 2050, contributing to China's efforts to have CO2 emissions peak before 2030 and achieve carbon neutrality before 2060, as well as to the global climate targets. In 2020, we increased investment in low-carbon and zero-carbon assets, driving our domestic gas production to grow by 9.9% and account for about 70% of China's total production in 2020. We further optimized our oil and gas production mix and made important progress in our transition to green, low-carbon energy. We actively deployed hydrogen energy and other alternative energy industries and fostered growth poles for the green and low-carbon energy industry.

We promoted the modernization of our ecological environment management systems and capabilities, and intensified efforts in pollution control, ecological protection and restoration, and emission reduction. We set energy-saving and emission-reduction as a major binding target, improved the oil-gas commodity rate and energy utilization efficiency, and accelerated the replacement of green and clean resources. In 2020, we reduced our emissions of SO2, nitrogen oxides and ammonia and carbon dioxide and nitrogen oxides by over 32%, 29%, 18%, and 36%, respectively, as compared with 2015. We continued our in-depth involvement in cooperation projects under the OGCI framework. We pledged that our carbon emission reduction actions will not be compromised by COVID-19 and low oil prices.

Supporting economic and social development to the best of our ability by upholding the people-centered philosophy

Upholding the people-centered philosophy, we contributed to winning the fights against COVID-19 and poverty. We gave top priority to the safety and health of our employees, and responded to epidemic and infection case in our workplaces. Leveraging our industrial and resource advantages, we went all out to secure refined products and gas supplies, and made urgent arrangements to produce anti-epidemic supplies. We donated funds and goods to areas hit hard by the epidemic, and sent hundreds of petroleum medical workers to Wuhan amid the coronavirus epidemic, and supplied daily necessities to communities through our service station network. With these actions, we played our role as a reliable central enterprise in the nation-wide epidemic prevention and control. Our service station at Hongtu Avenue in Wuhan was the only herculean gas station in China that won the title "National Advanced Collective for Fight against COVID-19". Overseas, we established joint prevention and control mechanisms against COVID-19 with local governments and communities and donated more than RMB 75 million worth of supplies to assist neighborhoods in their anti-epidemic efforts. We were also devoted to poverty alleviation by overcoming difficulties and challenges. During the "13th Five-Year Plan" period, we invested more than RMB 1.8 billion in targeted poverty alleviation in 1,175 villages across China to support the government's initiative for poverty alleviation and building a moderately prosperous society. All the counties (cities, districts) under our program of pooled-up assistance in poverty alleviation were lifted out of poverty. Two CNPC units were awarded the National "Advanced Collective for Poverty Alleviation" and Liang Nanwu and Bu Pengzhou, two cadres in charge of poverty alleviation, were named the "National Advanced Individual in Poverty Alleviation". As a result of its efforts in poverty alleviation, CNPC was honored with the "2020 China Practice for Corporate Achieving the Sustainable Development Goals (Eradicating Poverty and Promoting Prosperity)" award by the United Nations Global Compact and was granted the "National Award for Innovation in Poverty Alleviation" by the Chinese government.

What's past is prologue. In the "14th Five-Year Plan" period, the momentous changes underway in a century are evolving at an accelerated pace, and the international landscape will further immerse in profound and complex changes. The electric revolution, market revolution, digital revolution and green revolution in the energy industry are in full swing, and the industry transformation is accelerating. In the face of numerous risks and challenges, we will remain sensitive to changes, respond to them with well-structured actions, and stay ready to adjust our approach when necessary. We will make efforts to foster new opportunities amid challenges and make new advances amid changes. We will maintain our strategic focus and commit ourselves to the strategy of innovation, resource, market, internationalization, and green and low-carbon development. We will keep developing, deepening reform and innovation, facilitate the growth momentum of customers and empower people to enjoy a better life.

We are grateful for your attention and support to CNPC over the years. As a global corporate citizen, CNPC will devote our strengths to seek opportunities while meeting social needs and addressing common challenges, create shared value with stakeholders, achieve sustainable development of energy, the environment, and society, and work together to build a community with a shared future for mankind.

Chairman's Message
2020 Corporate Social Responsibility Report

About Us

As one of China’s largest oil and gas producers and suppliers, CNPC is an integrated international energy corporation covering oil and gas operations, oilfield technical services, petroleum engineering construction, petroleum equipment manufacturing, financial services and new energy development. We possess oil and gas assets and interests in 35 countries/regions around the world. In 2020, CNPC ranked 59th among the world’s top 50 companies and 4th in the Fortune Global 500 ranking. We are committed to providing CNPC solutions to the world’s energy transition, China’s efforts to have CO₂ emissions peak before 2030 and achieve carbon neutrality before 2060, and other climate and temperature control goals, in response to the United Nations sustainable development goals (SDGs).

In 2020, CNPC ranked 3rd among the world’s top 50 oil companies and 4th in the Fortune Global 500 ranking.

The energy transition, China’s efforts to have CO₂ emissions peak before 2030 and achieve carbon neutrality before 2060, and other climate and temperature control goals, in response to the United Nations sustainable development goals (SDGs). We have more emphasis on innovation-driven, green and low-carbon development, and enabled strategy to better play a leading role in sustainable development.

Our strategy
Innovation, resources, market, internationalization, green and low-carbon development

Our value
Green development and energy delivery, facilitating the growth momentum of customers and empowering people to enjoy a better life

Our philosophy
Patriotism, honesty, dedication, entrepreneurship

International Business
35
We operated overseas oil and gas business in 35 countries/regions

78
We provided technical services and engineering construction in 78 countries/regions around the world

Assets & Profits
4,086.67 billion
CNPC registered total assets of RMB 4,086.67 billion.

87.52 billion
Total profit of RMB 87.52 billion

Figure 1

Oil & Gas Supply
106.507 million tons
Our domestic marketing volume of refined products was 106.507 million tons.

33%
Accounting for 33% of the domestic market share

Employee Development
1.3045 million
We have a total of 1.3045 million employees.

88%
More than 88% of our overseas employees are local hires

Public Welfare
720 million
We invested RMB 720 million in public welfare undertakings globally, benefiting tens of thousands of people.

400 villages
Supporting nearly 400 villages in 239 counties

635 projects
A total of 635 poverty alleviation projects

Environmental Protection
1.42%
The proportion of natural gas in our total energy consumption increased by 1.42% year on year.

4.5%
Y-o-y reduction of ammonia-nitrogen emissions

Technological Progress
17.34 billion
CNPC invested RMB 17.34 billion in research and development

Figure 2

Environmental Protection

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<thead>
<tr>
<th>Indicator</th>
<th>2020 Value</th>
<th>Previous Year</th>
<th>Improvement</th>
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<tbody>
<tr>
<td>Natural gas</td>
<td>1.42%</td>
<td>1.36%</td>
<td>1.42% year on year</td>
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<tr>
<td>Ammonia-nitrogen emissions</td>
<td>4.5%</td>
<td>4.6%</td>
<td>0.1% year on year</td>
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<tr>
<td>SO₂ emissions</td>
<td>7.3%</td>
<td>7.4%</td>
<td>0.1% year on year</td>
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<tr>
<td>NOx emissions</td>
<td>6.4%</td>
<td>6.5%</td>
<td>0.1% year on year</td>
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Oil & Gas Production
306.41 billion
Domestic and overseas oil and gas production amounted to 306.41 million tons of oil and gas equivalent.

102.25 million tons
We produced a total of 102.25 million tons of crude oil in China.

52.7%
Accounting for 52.7% of China’s total crude oil

Technological Progress

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<th>Research and Development</th>
<th>2020 Value</th>
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<tr>
<td>Total Research and Development Investment</td>
<td>RMB 17.34 billion</td>
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Corporate Governance

CNPC is a wholly state-owned enterprise. According to relevant laws and regulations, including the Company Law of the PRC, the Law of the PRC on State-owned Assets of Enterprises, the Constitution of the Communist Party of China, and the Regulation of Leading Party Members Groups of CPC, in addition to arrangements made by the State-owned Assets Supervision and Administration Commission of the State Council, CNPC has built and continuously perfected the legal person governance structure with clearly defined rights and responsibilities among the Party group, board of directors, management committees, and employees, to ensure that each department carries out its own duties with effective balance, rational decision-making and coordinated operations. We strengthened our supervision and accountability system, reinforced our auditing supervision with a focus on system building and fulfillment of responsibilities, and realized clear control objectives, effective integration of resources and optimal efficiency and effectiveness. We also enhanced corporate social responsibility performance and achieved sustainable growth.

Governance Structure

Board of Directors

The Board of Directors is the decision-making organ of CNPC. The Board has four affiliated committees, i.e. the Strategic Development Committee, the Nomination Committee, the Evaluation and Remuneration Committee and the Audit and Risk Management Committee, which are designed to provide advice and recommendations for Board decisions. According to the Articles of Association of CNPC and the Board of Directors Authorization Management of CNPC, the Board of Directors issues conventional authorization on decision-making regarding corporate operations to the Chairman.

In 2020, we

Thoroughly implemented the Party’s organizational line in the new era, and gave full play to the leadership role of the Party organization in setting the right direction, keeping in mind the big picture and ensuring the implementation of Party policies and principles to accomplish major tasks such as COVID-19 prevention and control, enhancing business performance, and reform and development. We also consolidated the effectiveness of Party building, and strove for high-quality development through high-quality Party building.

CNPC Management and Control Systems

CNPC Management and Control Systems

<table>
<thead>
<tr>
<th>Goals</th>
<th>Measures</th>
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<tbody>
<tr>
<td>Build a scientific, complete and effective management system</td>
<td>Integrated with the supervision system to create a compliant integrated management system</td>
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<tr>
<td>Keep personnel behavior regulated and controlled</td>
<td>Enhanced the capabilities of preventing/controlling major risks at key points</td>
</tr>
<tr>
<td>Guarantee the Company’s operational compliance and sustainable and sound development</td>
<td>Improved the supervision on internal control in key areas</td>
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Internal control and risk management system

<table>
<thead>
<tr>
<th>Goals</th>
<th>Measures</th>
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<tr>
<td>Complete system</td>
<td>Improved the legal compliance demonstration, review and assurance system</td>
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<tr>
<td>Overall control</td>
<td>Conducted special identification and control of legal compliance risks</td>
</tr>
<tr>
<td>Effective implementation</td>
<td>Issued the Measures for the Implementation of the Anti-Monopoly Law of the People’s Republic of China and the Anti-Monopoly Compliance Guidelines</td>
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QHSE management system

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<th>Goals</th>
<th>Measures</th>
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<tr>
<td>Standardized operation</td>
<td>Developed compliance management demonstrations</td>
</tr>
<tr>
<td>Controlled risks</td>
<td>Improved the assessment indicators and scoring methods for compliant business operations</td>
</tr>
<tr>
<td>Continuous improvement</td>
<td>Carried out Company-wide compliance training, covering 100% staff</td>
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Anti-corruption system

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<tr>
<th>Goals</th>
<th>Measures</th>
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<tbody>
<tr>
<td>Consolidate and extend the resounding success in the fight against corruption</td>
<td>Delivered the Anti-Commercial Bribery Handbook in 6 languages to our employees worldwide</td>
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<tr>
<td>Strengthen the restriction and supervision over the exercise of powers</td>
<td>Compliance management system</td>
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Key Work of the Board of Directors in 2020

Formulation of development strategies

- Review the Company’s development strategies and medium-/long-term development plans.
- Formulate the Company’s annual business development and investment plans.

Deliberation of major issues

- Deliberate and approve major investment projects, both at home and abroad, to facilitate the implementation of the Company’s overseas strategies.
- Pay attention to communication with managers, and offer guidance and advice.
- Organize board meetings, special committee meetings and centralized investigation and survey to communicate on company development and board building.
- Deliberate on annual audit report and internal control system work report, and propose improvement opinions and suggestions.
- Exert the role of the Audit and Risk Management Committee, guide relevant departments to enhance their accountability in risk management, and implement major risk response measures.
- Strengthen the risk analysis and response for decision-making for major projects to ensure that the operation objectives are achieved while risks are minimized.

Attention to team building

- Deliberate and approve major investment projects, both at home and abroad, to facilitate the implementation of the Company’s overseas strategies.
- Pay attention to communication with managers, and offer guidance and advice.
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- Strengthen the risk analysis and response for decision-making for major projects to ensure that the operation objectives are achieved while risks are minimized.

Enhancement of risk prevention and control

- Formulate the Company’s annual business development and investment plans.
- Delivered the Anti-Commercial Bribery Handbook in 6 languages to our employees worldwide.
- Compliance management system |

Affiliated Board Committees

As specialized organs directly under, and accountable to, the Board of Directors and composed of directors of the Company, the committees appoint their members and fulfill duties in accordance with the provisions of the Articles of Association of CNPC, and provide advice and recommendations for Board decisions.

In 2020, giving full play to their respective professional advantages, the directors of the Company exercised due care and diligence, playing a positive role in guiding the strategic development of the Company, strengthening the review of major decision-making, issues, and strengthening risk control.

Management Compliance

CNPC regards compliance as one of its strategies for business revitalization. Compliance is of overriding importance. Therefore, we put legal compliance above economic interests, established the strategic position of compliance management, and further defined the responsibility of comprehensive compliance management. At the headquarters and in our subsidiaries, we continuously intensify compliance demonstration and review in respect of major decisions and major issues, and strengthen the prevention and control of compliance risks, in order to ensure management according to law and legal compliance in our operations. We strictly implement national laws and regulations and government regulatory requirements and keep strengthening compliance management in key areas. We have therefore basically put in place a general compliance management pattern featuring the division of work, control management and coordination. The awareness of compliance among our employees is strengthened, and an increasingly stern atmosphere for compliance is being created.

CNPC strictly upholds business ethics, credibility and integrity in its operations. We obey international covenants and laws and regulations of the countries where we operate, respect trade controls and fight against corruption, bribery, monopolistic practices, and unfair competition in any form. We deal with our suppliers, contractors, customers, government departments, partners and competitors and stakeholders in a fair and honest manner. We are committed to business integrity to win respect.
Concept of Sustainable Development

For a company, fulfilling corporate social responsibility is not only a necessary path to achieve economic, environmental and social sustainability, but also an inevitable choice for its own sustainable development; it is not only an external requirement to adapt to economic and social development trends, but also an internal requirement to enhance its sustainability; it is not only an important way to change its development mode and achieve scientific development, but also a strategic requirement for expanding its internationalized operation.

We aim to achieve the organic unity of economic, environmental and social responsibilities, and strive to become an outstanding global corporate citizen with higher profitability, stronger influence, and a greater reputation in society. We have never relented in our efforts to implement our social responsibilities, adhere to legal operation, be honest and trustworthy, conserve resources and protect the environment, insist on the people-oriented principle and build a harmonious enterprise, in order to make returns to society and realize value-sharing.

Management Mechanisms

Sustainable development management is an important part of CNPC’s drive for deepening the modernization of its governance system and capabilities. At CNPC, we regard the establishment and improvement of the social responsibility management mechanism as a fundamental task in advancing sustainable development management. Focusing on system establishment, organizational structure and capability building, we have established a set of comparatively comprehensive sustainable development management mechanisms.

System Building

We have developed a “1+N” system covering economic, environmental and social responsibilities. Guided by the Guideline of CNPC on Fulfilling Social Responsibility, we improve working rules and regulations on corporate governance, safety and environmental protection, low-carbon development, product quality, employee health, and social welfare, laying a solid foundation for sustainable development management.

Organizational Structure

The Social Responsibility Management Committee is responsible for making social responsibility strategies and plans. The Committee is composed of heads of headquarters functional departments, with a company leader as the director. Meanwhile, we have established an External Experts Committee and regularly hold meetings to solicit professional advice on social responsibility management and best practices, and to provide support for our decision-making. At the headquarters, we have set up the Social Responsibility Office for CSR implementation, which is responsible for organizing and coordinating the planning and implementation of our social responsibility work. A working mechanism has been established, in which the Committee takes the lead, departments in charge organize the work, business sectors take respective responsibilities and affiliates are fully engaged. This has effectively ensured the progress of our social responsibility standards and planning.

Capability Building

We actively carry out research in the field of social responsibility, promote CSR education and training, and boost communication with relevant organizations at home and abroad, in order to continuously enhance CSR awareness and our capability to fulfill responsibilities among all employees.
CNPC and the UN SDGs
The UN SDGs represent the greatest consensus of mankind on sustainable development. As a global corporate citizen, CNPC strives to give full play to its own advantages, and seeks opportunities and common development through meeting social development and addressing common challenges, so as to create shared value with stakeholders.

We cooperated with host governments and partners to address challenges in energy sustainable development.
- We conducted international trading, with a reported trading volume of 460 million tons.
- We promoted economic development, and pursued peace and growth.
- We strengthened international trading, and ensured trade and investment discipline.
- We compiled local environmental protection policies, and animal and plant trading laws and regulations, and protected local rare species.
- We protected the white storks in Dagong Oilfield.
- We protected the Przewalski’s Horse in Xinjiang.
- We activated the environmental feature acquisition program, and carried out environmental control and monitoring projects, to protect local marine ecological environment and biodiversity.
- We protected marine ecological environment in Brazil.
- We embraced and supported the goal of the Paris Agreement. We included “green and low-carbon” in our corporate strategy, and actively responded to climate change.
- We set the methane emissions reduction targets.
- We completed GHG emission data collection and reporting.
- We made planning for the hydrogen energy industry.
- We promoted clean and low-carbon technologies.
- We intensified our efforts in clean energy supply, sustainable management of natural resources, hazardous chemicals management, and pollutant discharge reduction.
- The emissions of major pollutants continued to decline.
- We contributed to the “Battle for Clean Land”, which was praised by the Ministry of Ecology and Environment.
- We built roads and other infrastructure in economically underdeveloped countries/regions, to help improve the living conditions of local people.
- We built village roads in Xishui County of Guizhou Province.
- We built a tourist highway in Hengfeng County of Jiangxi Province.
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- The proportion of female employees is 31.31%.
- We attached great importance to technological innovation capability building, and supported infrastructure construction in economically underdeveloped areas.
- The “MoTa coal indirect liquefaction technology innovation, development and industrialisation project won the first prize of the National Science and Technology Progress Award.

We carried out poverty alleviation to help end all forms of poverty.
- We invested RMB 720 million in public welfare undertakings globally.
- We helped all areas under our assistance get lifted out of poverty.
- We won the “National Poverty Alleviation Award – Organization Innovation Award”.

We took action to restore farmland, boost agricultural production and supply water to rural areas.
- We provided assistance in spring plowing, summer planting, summer harvesting, summer field management, and autumn harvesting.
- We assisted in the construction of an agricultural park in Taiqian County, Henan Province.

We communicated to the public a healthy lifestyle, and provided free medical services.
- We paid great attention to employee health, and implemented the Employee Assistance Program (EAP).
- We issued the Plan for Implementing the “Healthy China 2030” Outline.
- Our occupational health examination rate reached 99.23%. The psychological hotline provided services for about 2,017 hours.
- We set up teams to maintain mental health for overseas teams and provided psychological assessments for 1,030 employees.
- We carried out COVID-19 pandemic prevention and control abroad, established overseas epidemic prevention and control mechanism/system, and implemented targeted prevention and control measures.
- We transshipped and remotely treated 8 sick overseas employees.
- We assigned 63 medical workers to Wuhan for fighting against COVID-19.

We invested RMB 10.44 million in supporting education.
- We granted CNPC Scholarships of RMB 3.99 million to 651 excellent students.
- We implemented training programs such as the “Teacher Training Program” and “Xuhang Program”, training more than 7,300 educators and helping 11,400 students in poverty.
- We helped children in Tibet get access to education.

We upheld gender equality, respected and protected female employees’ legal rights and interests, and paid attention to the demands of female in poverty-stricken areas, to help them enjoy a better life.
- We advocated an employment policy based on equality. The proportion of female employees within our company is 31.31%.
- We helped women get access to higher education.

We improved water use efficiency, and strengthened water resources management and water pollution control. We supported and participated in projects to improve drinking water quality in poor areas.
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- We provided assistance in spring plowing, summer planting, summer harvesting, summer field management, and autumn harvesting.
- We exported PNG and LNG through multiple channels.
- We established the China National Petroleum Corporation (Shanghai) Energy Democracy Technology Company Limited.
- We imported PNG and LNG through multiple channels.
- We helped all areas under our assistance get lifted out of poverty.
- We carried out poverty alleviation to help end all forms of poverty.

We developed new energy, improved energy efficiency, and enhanced our ability to supply natural gas.
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- We provided assistance in spring plowing, summer planting, summer harvesting, summer field management, and autumn harvesting.
- We exported PNG and LNG through multiple channels.

We created job opportunities for local people according to applicable labor standards and gave priority to local contractors in economically underdeveloped areas.
- We have a total of 1,304.5 million employees.
- We recruited 492 college and university graduates.
Communication with Stakeholders

Stakeholders are the groups or individuals who are able to influence corporate decisions and activities, or are subject to influence from corporate decisions and activities, including government, employees, customers and consumers, partners, relevant agencies and communities, etc. Stakeholders' participation in CSR work can help deepen mutual communication, understanding, trust and cooperation, and is beneficial to the Company's development.

We adhere to the principles of honesty, interaction and equality, and actively establish and improve the mechanism of stakeholder participation. We introduce a variety of ways to collect and analyse the expectations and concerns of our stakeholders, enhance our communication with stakeholders, and invite them to participate in decision-making and activities related to our sustainable development. In addition, we learn from international standards and advanced experiences at home and abroad to continuously improve stakeholder participation.

Increasing Routine Disclosure

Through the Company's website and its micro-blog, WeChat, micro portal, WeChat video channels, mobile platforms, public reading and other new media, we enrich information disclosure on social responsibility and enhance the effectiveness of our communications.

Expanding Public Communication Channels

In 2020, we encouraged stakeholders to participate in the Company's major decision-making and activities, and provided the media and the general public with a better understanding of CNPC. We introduced a variety of ways to enhance communications with our stakeholders including the staff congress, announcements, seminars, and dialogues. We also launched a series of activities including CNPC Open Day, College Journalists Approaching CNPC, and other activities allowing visits to CNPC.

Approaching CNPC

We actively communicate with the public through various platforms. In 2020, we held the 3rd “Refueling for Dreams” Open Day event, and launched the “cloud-open” event. During the events, different stakeholders including NPC deputies, CPPCC members, media reporters, primary and middle school students and local residents were invited to learn more about and gain a deeper insight into CNPC and petroleum. A total of 239 rounds of activities were organized by 54 subsidiaries of CNPC throughout the year, attracting people from different walks of life.

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<td>• Issued our first CSR report&lt;br&gt; • Released our CSR KPIs</td>
<td>• Established the CSR reporting mechanism&lt;br&gt; • Opened to the public at <a href="mailto:csr@cnpc.com.cn">csr@cnpc.com.cn</a></td>
<td>• Held CSR Forums&lt;br&gt; • Launched a website on environment and society</td>
<td>• Issued CNPC in Sudan&lt;br&gt; • Promoted the sharing of CSR best practices at CNPC</td>
<td>• Conducted research on CSR indices and guidance</td>
<td>• Compiled 2011 Corporate Social Responsibility: Best Practices from CNPC</td>
<td>• Carried out CSR research&lt;br&gt; • Compiled and released the Guideline of CNPC on fulfilling Corporate Social Responsibility</td>
<td>• Issued the Special Report on Social Responsibility for the West-East Gas Pipeline (2002-2013)</td>
<td>• Issued the CNPC CSR Special Report on Poverty Alleviation and Development (2006-2015)</td>
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<td>• Issued the CNPC Special Report on Corporate Social Responsibility for Development-Oriented Poverty Alleviation 2016-2020</td>
</tr>
</tbody>
</table>
### Stakeholders

<table>
<thead>
<tr>
<th>Government</th>
<th>Employees</th>
<th>Customers and Consumers</th>
<th>Business Partners</th>
<th>NGOs and Relevant Organizations</th>
<th>Communities and the Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Guarantee energy security</td>
<td>● Guarantee employees’ rights and interests</td>
<td>● Provide safe, environmental-friendly, and high-quality products</td>
<td>● Comply with national laws, regulations and business ethics</td>
<td>● Participate in discussion on public policy and industry standards</td>
<td>● Promote community development</td>
</tr>
<tr>
<td>● Stable market supply</td>
<td>● Employee career development</td>
<td>● Provide quality services</td>
<td>● Pay attention to industry trends and policy moves</td>
<td>● Protect environment and increase local employment</td>
<td>● Protect community environment</td>
</tr>
<tr>
<td>● Fulfill social responsibility</td>
<td>● Employee value realization</td>
<td>● Improve customer satisfaction</td>
<td>● Advance the sustainable development of enterprises and industries</td>
<td>● Increase local employment</td>
<td>● Support education, public health and other public welfare activities</td>
</tr>
<tr>
<td>● Address climate change</td>
<td>● Employee health and safety</td>
<td>● Establish communication mechanisms</td>
<td>● Carry out cooperation in social development and environmental protection</td>
<td>● Support cultural exchange</td>
<td>● Perform social investment</td>
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<tr>
<td>● Operate in compliance with all legal requirements</td>
<td></td>
<td>● Advocate sustainable consumption patterns</td>
<td>● Share corporate experience</td>
<td></td>
<td>● Enhance sustainable development capacity</td>
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<tr>
<td>● Deepen corporate reform</td>
<td></td>
<td>●Protect consumer privacy</td>
<td></td>
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<tr>
<td>● Guarantee investors’ interests</td>
<td></td>
<td>● Improve consumer complaints mechanism</td>
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</table>

### Goals and Concerns

#### Means of Communication and Participation

- Legal operation, integrity and trustworthiness
- Respond to the government’s call, and accept supervision
- Contribute to the formulation of energy policies, laws and regulations and industry standards
- Enhance the quality of products, engineering and services
- Improve environmental performance

- Support trade unions at different levels
- Hold staff congresses
- Reinforce staff training
- Improve salary distribution system
- Hold contests and evaluations

- Safeguard consumers’ interests
- Supervise product quality
- Solicit the opinions of customers and consumers

- Improve consumer complaints mechanism

#### Our Actions

- Change the mode of development, increase resource potential, promote technological innovation, maintain sound operations and increase the value of state-owned assets
- Safeguard energy supply and optimize energy mix, in coordination with national energy strategy
- Promote the building of national key laboratories and major scientific and technological innovation projects

- Improve the staff development mechanism
- Enhance employee training by hosting professional skills competitions
- Protect the legitimate rights and interests of employees, including remuneration, education and training, rest and vacations, and labor protection
- Continue to organize occupational health examination and poverty alleviation activities

- Increase clean oil supply and realize supply of National VI standard gasoline and diesel nationwide
- Further promote the CNPC Quality Month Campaign
- Provide natural gas and other clean energy and products
- Establish a unified service station management system and launch overall inspections on service stations

- Implement customer satisfaction investigation and conduct mystery customer visits

### Our Actions

- Advocate fair competition and standardized operations, and promote the use of e-procurement and management platform
- Strengthen control over key processes including design, procurement, construction and supervision, and strengthen HSE management for suppliers and contractors

- Exchanges with the public on their concerns
- Participate in high-level strategic cooperation forums to discuss how to build an efficient, safe and competitive supply chain

- Carry out disaster relief, poverty alleviation and donations to education, and support the reconstruction of disaster-stricken areas
- Carry out fixed-point poverty alleviation and aid programs
- Support and drive the development of local economies through major project construction, and make steady progress in joint venture cooperation in refining, pipelines, shale gas, and marketing network
- Implement oil and gas recovery projects to minimize evaporation
- Support the development of SMEs and promote local procurement
Concerted Efforts to Fight against COVID-19

No one is immune to crisis in an interconnected global village. After the outbreak of COVID-19, CNPC promptly set up an epidemic prevention and control team, and worked together with the government, employees, business partners, communities, and customers to fight against the epidemic. While preventing and controlling the epidemic and resuming production, CNPC spared no efforts to ensure the oil and gas supply in the key areas of epidemic prevention and control, switched to and expanded the production of medical materials, served the supply of local people’s livelihood at service stations and uSmile convenience stores, and actively supported the recovery of the local economy.

In 2020, CNPC achieved “no epidemic” and “zero case” in the workplace, effectively safeguarding the safety and health of employees. CNPC donated an aggregate of RMB 104.53 million of anti-epidemic funds and materials, switched to and expanded the production of 617,000 tons of medical materials, produced 1.279 billion masks, and produced 1.96 million masks. CNPC strengthened investment and cooperation and enhanced employment opportunities in key areas of the epidemic outbreak, providing jobs for college graduates and migrant workers and employing 1,000 more people than in 2019.

We are confident that with the concerted efforts of all parties, humanity will eventually overcome COVID-19 and usher in a better tomorrow. CNPC will continue to work with our stakeholders to prevent and control the epidemic and achieve economic recovery, contributing to the health and safety of the people as well as the prosperity and stability of the national economy.
Opportunities and Challenges

A temporary backlash against the growth of energy demand. Reeling from the impact of COVID-19, the global economy has fallen into a deep recession. The global energy demand dropped by around 5% in 2020, and it is expected to not return to the pre-pandemic level until 2023. Oil and gas will still play an important role in the global economic recovery. In the long run, population growth, urbanization, and industrialization of developing countries will drive global energy demand and consumption to grow further.

Contribution of the energy transition to the “carbon neutrality” goal. The transition to a green and low-carbon energy mix has become a global consensus, and the renewable energy industry is developing rapidly amid the transition. The International Energy Agency (IEA) predicts that from 2020 to 2030, demand for renewable energy power will increase by 2/3, about 80% of the increment in global electricity demand. Low-carbon energy and efficiency improvement will help many countries and energy companies achieve the goal of "near-zero" carbon dioxide emissions by the middle of this century.

Prominent inequality in access to energy. Over 1.2 billion people worldwide still do not have access to affordable modern energy, and a large number of developing countries are still using high-pollution and high-carbon energy. Helping this group to obtain equal access to clean, low-carbon and affordable energy is a requirement for achieving the Sustainable Development Goals (SDGs) of the United Nations, but also the key to achieving global temperature control goals.

Accelerating construction of China’s clean and low-carbon energy system. China is committed to a peak in carbon dioxide emissions by 2030 and carbon neutrality by 2060. The energy transition will be greatly accelerated under the guidance of the new energy security strategy and the requirements of the “Peak Carbon, Carbon Neutrality” goal. Energy enterprises are accelerating the construction of a clean, low-carbon, safe and efficient modern energy system to support high-quality economic development.

Energy and Future

Sustainable Energy Supply

It is CNPC’s responsibility and mission to meet energy challenges and satisfy the ever increasing demand for low-carbon clean energy. To this end, we enhance technological innovation to continuously increase our efficiency in hydrocarbon development and utilization. We boost the natural gas industry, expand new energy business, and raise the proportion of clean energy in our energy supply. With these efforts, we strive to make contributions to the construction of a diversified, clean energy supply system and the prosperity of human society.

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Strategic Response

The world is undergoing a profound and rapid energy transition towards a cleaner, low-carbon, more efficient and diversified energy structure. Especially at a time of sluggish global economic growth and intensifying backlash against globalization, energy companies should work together to overcome difficulties, explore new opportunities and seek sustainable development. As a major player in the oil and gas industry and China’s largest oil and gas producer and supplier, CNPC has been actively cooperating with the government and companies in the industry chain, and strives to provide clean, low-carbon, safe and efficient energy while meeting future energy demand, in an effort to jointly build a sustainable energy future.

We will build a “low-carbon energy ecosystem” to create new strengths for green development. Under the guidance of the new vision, we incorporate the green and low-carbon drive into CNPC’s strategy. We will keep enhancing our capability to supply natural gas, foster a growth engine of green development that comprises multiple energy with oil and gas in dominance, and build a “low-carbon energy ecosystem” that integrates both fossil fuels and clean energy. We will constantly explore new low-carbon business models, develop new energy and new materials, and promote emission reduction and decarbonization in traditional businesses. We will make further efforts to support large-scale development of geothermal resources, strengthen support for the research and application of biomass energy, consider to deploy the whole industry chain of hydrogen energy, and promote clean energy development and utilization by fully leveraging local conditions. We will also accelerate the construction of CCUS demonstration projects, foster growth poles for the green and low-carbon energy industry, and aim for achieving “near-zero” emissions by 2050 and contributing to China’s efforts to achieve carbon neutrality by 2060.

We will broaden the global network of partnerships to expand new areas of cooperation. We will further uphold the concept of mutual complementarity and mutual benefit and unswervingly following the path of “internationalization”, broaden our areas of energy cooperation under the Belt and Road Initiative and the global network of partnerships, and raise the transnational index, so as to contribute to the world economy and trade recovery and development. We are committed to reshaping the global industrial chain. We will accelerate cooperation in key business areas such as natural gas and LNG integration, shale oil and gas development, and deepwater to ultra-deepwater development, intensify efforts in areas like R&D and design, marketing services, brand operations, optimize global resource allocation, and expand new areas of cooperation.

Technology and Innovation

We put more emphasis on the innovation strategy. We endeavor to deploy innovation chains based on industrial chains, and promote value chains through innovation chains. We drive high-quality supply through innovation, and address global challenges such as equal access to energy, reduction of carbon emissions, and improvement of energy efficiency.

Innovation Platforms

CNPC relies on 84 research institutions and departments, including 7 at headquarters-level and 77 at subsidiary-level. CNPC also has 21 national R&D institutions and 34 Group-level key laboratories and experiment bases, covering the upstream, midstream and downstream sectors and supporting and leading the Company’s sustainable development.

CNPC maintains a two-level (national-level and provincial/industry-level) skills cultivation platform and has a powerful group of 23 academicians, 23 scholars from the national “Hundred, Thousand and Ten Thousand Talents Program”, 751 two-level technical experts and 1,452 skilled experts, and 30,013 researchers. Among them, 7.3% hold doctor’s degree, 26.1% hold master’s degree, and 48.8% hold bachelor’s degree.

CNPC’s Progress in Building the Innovative Scientific Research Platform in 2020

- Built the National Energy R&D (Testing) Center for Long-distance Oil/Gas Pipeline Technology and Equipment and the National Energy R&D Center for LNG Technology
- Built and improved 13 platforms including the Key Laboratory for Complementate Resource Exploration and Development and the Key Laboratory for Unconventional Oil and Gas
- Updated and transformed the database, and optimized the information management systems at CNPC’s key laboratories and test bases

CNPC’s path of green and low-carbon transition

CNPC attaches great importance to green and low-carbon transition. We have developed a green and low-carbon development path to support China’s efforts to have CO2 emissions peak before 2030 and achieve carbon neutrality before 2060, and initially established a three-step overall scheme of “Clean Substitution, Strategic Succession and Green Transition”, aiming to achieve peak carbon emissions by around 2025, supply of natural gas, foster a growth engine of green development and utilization by fully leveraging local conditions. We will also accelerate the construction of CCUS demonstration projects, foster growth poles for the green and low-carbon energy industry, and aim for achieving “near-zero” emissions by 2050 and contributing to China’s efforts to achieve carbon neutrality by 2060.

Drive the production of natural gas, a green and low-carbon energy resource, to grow rapidly while stabilizing oil production. By 2025, gas producer’s expected to account for about 15% of our oil and gas production, making CNPC an industry leader.

Take natural gas as a critical contributor in the future energy system, make good use of our abundant wind, solar and geothermal resources, promote the integrated development of wind, solar, gas and electricity and the industrialized utilization of hydrogen energy, and step up the large-scale development and comprehensive utilization of thermal resources, helping CNPC transit to an integrated energy company specialized in “oil, gas, heat, electricity, and hydrogen”.

Promote the green action plan, and implement energy conservation, emission reduction and clean replacement, in order to slash carbon emissions; adapt forestry carbon sink and CCUS for carbon removal; and offer green, carbon-free energy to the society.
Technological Achievements
Guided by major national science and technology projects in oil and gas, and centered on the Company's science and technology major projects, CNPC intensified efforts in technological innovation and formed a batch of innovative theories and new technologies/new products with proprietary intellectual property rights. CNPC also accelerated efforts in breakthroughs in a number of key and core technologies, so as to provide strong technological support for the high-quality development of the Company.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Measures</th>
<th>Progress</th>
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</thead>
<tbody>
<tr>
<td>Increase both reserves and production under complex geological conditions</td>
<td>● Continue to deepen knowledge of ancient carbonate rock reservoir formation and deep zone exploration and development</td>
<td>Made significant breakthroughs in oil and gas exploration in ultra-deep reservoirs in the hinterland of the Tarim Basin</td>
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<td>● Innovate the theories of shale oil accumulation and volume development</td>
<td>Discovered China’s first proven shale gas area with reserves of over 1 trillion cubic meters in the southern Sichuan Basin, which is built to a large shale gas field with an annual output of more than 10 billion cubic meters</td>
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<td>● Innovate the “ultra-deep, weak strike-slip” fault identification technology</td>
<td>Proved shale oil in place of 3 to 5 billion tons in multiple basins</td>
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<td>● Break the technical bottleneck in shale gas development engineering</td>
<td>Maintained a stable output of 30 million tons of crude oil in Daqing Oilfield</td>
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<tr>
<td>Promote green production and low-carbon development</td>
<td>● Implement CNPC-level major low-carbon technology projects and research on the development and application of new energy technologies</td>
<td>Established a geothermal utilization technology system</td>
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<td></td>
<td>● Carry out CNPC’s major field tests: demonstration project of key technologies for CO2 capture, oil displacement and storage</td>
<td>Developed three types of new materials for photocatalytic hydrogen production</td>
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<td></td>
<td>● Develop the technology for comprehensive control of refining and chemical pollutants</td>
<td>Developed and implemented key technology for CO2 flooding and storage</td>
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<tr>
<td>Improve energy efficiency, reduce costs and ensure energy security</td>
<td>● Integrate information technology into the oil and gas industry</td>
<td>Established the VOCs comprehensive control demonstration zone in Jilin Petrochemical and three-waste (wastewater, waste gas and solid waste) treatment demonstration zone in Ningxia Petrochemical</td>
</tr>
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<td></td>
<td>● Integrate technologies such as “cloud computing, big data, and Internet of Things” into the whole process of the Company’s production and operation</td>
<td>Digital oilfield: The Dream Cloud platform covering exploration and development, collaborative research, operation management and other business was initially built</td>
</tr>
<tr>
<td></td>
<td>● Strengthen technological research, promote refining and chemical transformation and upgrading, optimize drilling and completion technologies, and continue to reduce construction costs</td>
<td>Refining and chemical upgrading: A series of technologies were developed and applied for controlling oil and increasing chemical production to increase the production of high-end lubricants, high-value-added polyolefins, high-end synthetic rubbers and other featured new products</td>
</tr>
</tbody>
</table>
Digitalization and Intelligentization Enabling Transformation

The global energy industry is accelerating its transition to an era of digitalization and intelligentization. The new generation of technological revolution is reshaping the way we produce and live, and the traditional ways of acquiring energy need to be changed. To catch up with the new trend of accelerating energy transition, CNPC promotes the use of digital technology to empower the industry, so as to deliver cleaner and low-carbon energy to consumers while reducing costs and enhancing performance.

Promoting the collaboration between business development and R&D innovation. We coordinate the optimization of the oil and gas industry chain and the R&D innovation, and have upgraded informatization from application integration to shared services. Through overall planning for all oil and gas production sectors and in an effort to maximize the overall profitability of the upstream as well as downstream business chain, we empower resource allocation, processing, logistics and marketing to achieve a comprehensive perception of market dynamics, coordinated optimization of production and operation, a rapid response to risk warnings, and accurate and efficient decision-making. In terms of collaborative research and development, the research platform is integrated with shared professional software and other elements to improve the efficiency of multi-disciplinary and cross-organization collaborative research and development, and artificial intelligence digital tools are used to support new product development and make research more successful. A centralized and unified business management and office management platform and a production management platform covering the upstream, midstream and downstream of the oil and gas industry chain have been established. These platforms have improved management efficiency and promoted information sharing and business collaboration across disciplines and departments.

Facilitating industrial transformation and upgrading. We integrate the Internet, big data, and artificial intelligence with the Company’s business to realize smart oil and gas fields, smart refining, smart marketing and smart engineering, so as to facilitate industrial transformation and upgrading. In 2020, we launched a new version of E&D Dream Cloud platform, enabling the core data of the Company’s upstream business to be fully shared.

Goals

To build a lifecycle intelligent support platform for drilling engineering, and fully improve risk management and control, engineering quality, and operation efficiency.

To build intelligent wellbores for real-time and transparent remote surface/downhole monitoring of the whole process of drilling and completion.

To create intelligent operation sites, including intelligent drilling and digital seismic teams.

To enhance the ability of perception, analysis and optimization, prediction and coordination of refineries, and build a new smart refining model featuring an efficient supply chain, lean operation, safe work control and interconnected operation and maintenance.

To promote the transformation and upgrading of refined oil retailing business, build an ecosystem of “people, vehicle and life”, and achieve “smart marketing, digital operations and integrated management and control” relying on digital technologies such as the Internet of Things, big data, and artificial intelligence and upgrading the new retail concept.

Application

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Supported by CNPC’s intelligent support system for engineering operations, the digital transformation and intelligent development of engineering technology business began to pay off. As of the end of 2020, the data covered 1,124 wells, more than 4,300 field problems were solved remotely, and the complex troubleshooting efficiency was improved by 47.93%.

To form a new oilfield business model of “real-time monitoring, smart diagnosis, automatic processing and smart optimization” based on perception, interconnection and data fusion.

Xinjiang Oilfield built an information system covering business such as the Internet of Things for oil and gas production and a collaborative research environment to provide production dynamics in real time, support oilfield production and operation activities, vigorously promote intelligent analysis and application and support scientific decision-making.

Changqing Petrochemical built an information system covering the management, production execution and operation control levels, and achieved automatic operation, lean management and collaborative operation in the areas of production, equipment, safety and environmental protection.

Smart oil and gas fields

Smart refining

Smart marketing

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Shanghai Marketing Company explored the construction of a digital ecosystem by facilitating its retailing with technologies such as big data and artificial intelligence.
Clean Energy

In order to secure the sustainable supply of clean energy in the future, we have been vigorously developing natural gas. Particularly, we accelerate the development and utilization of unconventional natural gas and deploy the businesses of new energy and new materials in a faster manner to meet market demand for clean and high-quality energy products. In 2020, CNPC produced more than 130 billion cubic meters of natural gas domestically, historically recording a portion of more than 50% in the oil and gas mix for the first time.

Natural Gas

As natural gas is a bridge from fossil energy to clean energy, its development and utilization is fundamental for green and low-carbon transition. Taking natural gas as a strategic, growing and value-added business, CNPC keeps strengthening natural gas exploration and development, developing unconventional natural gas, such as tight gas, shale gas and coalbed methane, and importing overseas natural gas to build a diversified energy supply system. By the end of 2020, CNPC’s natural gas production capacity was 128.45 billion cubic meters.

"Green Power" Optimizing Energy Structure

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CNPC’s share of domestic natural gas production

70%

Gas mix in CNPC’s domestic production of oil and gas equivalent

50.4%

184.66 billion cubic meters

Gas supply in 2020: 184.66 billion cubic meters

Ensuring Stable Gas Supply in Winter

CNPC supplies natural gas to over 500 million people across 31 provinces (municipalities and autonomous regions) and SARs in China. Due to large seasonal fluctuations in gas consumption, securing users’ demand for natural gas in winter is a matter of responsibility for the people’s livelihood, and also a great test for the Company. In the 2020 winter, especially, affected by the La Niña weather phenomenon, most parts of China were hit by a lower temperature than previous years. North China saw the area coolest temperature since the beginning of the 21st century. Despite of severe COVID-induced challenges, CNPC leveraged its advantages of integrated natural gas industry chain, optimized production organization and operation, strengthened coordinated scheduling and work connection after the pipeline network reform, and made full efforts in production, supply, storage, sales and trade. During the winter supply period, CNPC supplied 184.66 billion cubic meters and supplied 97.93 billion cubic meters of natural gas to the market, up by 11.6% and 15.5% respectively over the previous year.

In North China, every 1°C drop in temperature requires additional 6 million cubic meters of natural gas per day

Access China, every 1°C drop in temperature requires additional 15 million cubic meters of natural gas per day

Data source: Energy Statistics by CNPC’s Economics & Technology Research Institute

In 2020, CNPC produced 160.31 billion cubic meters of natural gas, including 130.6 billion cubic meters of conventional gas, 12.845 billion cubic meters of shale gas, and 7.066 billion cubic meters of CBM. As a result, the proportion of natural gas in China’s primary energy consumption mix was 8.3% in 2020, up 0.1 percentage point from the previous year.

In North China, every 1°C drop in temperature requires additional 6 million cubic meters of natural gas per day

Across China, every 1°C drop in temperature requires additional 15 million cubic meters of natural gas per day

Increasing gas production. Changqing and Tarim Oilfields produced, at their maximum capacity, 33.83 billion cubic meters of natural gas during the winter supply period, representing an increase of 12.3%. Southwest Oil and Gas Field built Southwest China’s first giant gas province with an annual output of 10 billion cubic meters in the Sichuan Basin.

Withdrawing more gas from gas storages. Free gas storages (incl. Shuangnan) gas storage in Jilin Oilfield) were built further enhancing our capacity of gas supply. In the 2020 winter, a total of 11 billion cubic meters of natural gas was withdrawn from CNPC’s gas storages, representing a year-on-year increase of 4.7 billion cubic meters or 66.9%; the maximum volume of natural gas withdrawn for peak shaving exceeded 130 million cubic meters.

Coordinating the supply of LNG. LNG terminal in Dalian, Tianjin and Jiangsu delivered a maximum of 119 million cubic meters of LNG per day effectively meeting the peak demand in the Beijing-Tianjin-Hebei, Yangtze River Delta, Northeast China and other regions.

Ensuring the import of gas. CNPC maintains close communications and regular exchanges with Shell, ExxonMobil and other suppliers to ensure a stable supply of gas.

Reducing self-use gas. To guarantee gas consumption for people’s livelihood, CNPC adjusted the fuel structure of refining and chemical production, slashed self-use gas, and shut down self-owned LNG plants and fertilizer production facilities.
Unconventional natural gas

- **Shale gas**: CNPC produced 11.6 billion cubic meters of shale gas, representing a y-o-y increase of 3.58 billion cubic meters.
- **Coalbed methane**: CBM production amounted to 2.18 billion cubic meters in 2020.

Utilization of Natural Gas and Alternative Fuels

We actively promote the comprehensive utilization of natural gas in city gas, industrial fuels, natural gas power generation, chemical feedstock and vehicle fuels. In 2020, our domestic natural gas terminal sales increased by 31.1%. To meet the demand of “coal-to-gas” users and vehicle fuels. In 2020, our domestic natural gas terminal sales increased by 31.1%. To meet the demand of “coal-to-gas” users and vehicle fuels.

Resource supply for spring plowing

- Increasing the supply of diesel oil. From the beginning of 2020 to mid-March, CNPC delivered a total of 15.28 million tons of diesel oil for spring plowing, 197 million tons more than the volume at the beginning of the year.
- Guaranteeing the supply of agricultural materials by virtue of our sales network. In cooperation with the agricultural materials producers, CNPC’s 23 sales companies supplied 146,000 tons of fertilizers during the period of spring plowing.

Resource supply for work resumption in Beijing

- Effectively coordinating production, transport and marketing to increase the supply. In April, CNPC delivered a total of 42,000 tons of gasoline and diesel oil to Beijing.
- Increasing the delivery from refineries. CNPC delivered a total of 9.227 million tons of refined products from April to May. CNPC actively coordinated with the railway and shipping organizations to ensure the fuel delivery to service stations, with a total of 709 million tons of gasoline and diesel delivered.

Resource supply during the Labor Day

- Ensuring the supply to key areas. CNPC strengthened the supply of resources to tourist attractions and refueling stations along arterial roads, with emergency supply plans in place.

Resource supply for responses to heavy rainfall and flood disasters

- Guaranteeing the stable supply of resources. CNPC delivered 58,000 tons of gasoline and diesel oil to five provinces along the Yangtze River for flood relief.
- Maintaining a higher stock based on the demand estimate. Our sales enterprises increased their stock to 11.03 million tons before the holidays, representing an increase of 4.62 million tons year-on-year.
- Keeping multi-resource supply measures and schemes. In Beijing, where the demand for refined products was expected to rise greatly during the holidays, CNPC ensured a maximum daily resource delivery of over 3.200 tons.

Resource supply during the National Day and the Mid-Autumn Festival

- Effectively coordinating production, transport and marketing to increase the supply. In April, CNPC delivered a total of 42,000 tons of gasoline and diesel oil to Beijing.

New Energy

CNPC is transitioning from a supplier of ‘oil and gas’ to a supplier of ‘comprehensive energy’ by increasing the proportion of clean and low-carbon energy in the energy mix and taking more active actions to address the challenges of climate change. In 2020, we set up a leading group for new energy and new materials, strengthened strategies and plans for new energy, continued to expand new energy business such as geothermal energy, solar energy, biofuels, and charging and battery swap stations. Especially, we made enormous strides in hydrogen energy.

Green Products

We optimize the energy consumption structure by upgrading energy products. The Company’s refineries fully supply National VI standard gasoline and diesel to meet the market demand for high-quality oil. The manufacturing skills of downstream green chemical products and the level of green management throughout the life cycle continue to improve, effectively supporting the country in achieving its air pollutant emission reduction targets.
Climate Change

We respond to the Paris Agreement adopted by the 2015 United Nations Climate Change Conference, and embrace the goal of limiting global warming to less than 2 degrees Celsius by the end of this century. We actively contribute to China’s efforts to have CO₂ emissions peak before 2030 and achieve carbon neutrality before 2060. We take the initiative in international climate governance, and actively respond to climate change.

CNPC Low-Carbon Development Progress

Strategic goals

1. Integrate green, low-carbon development into corporate strategy
   - By 2030, the supply of natural gas and other clean energy is further increased, and the proportion of the Company’s domestic natural gas output in its domestic primary energy output and that of new energy and renewable energy output in its domestic primary energy output continue to grow.
   - By 2050, the proportion of the Company’s domestic natural gas output in its domestic primary energy and that of new energy and renewable energy output in its domestic primary energy output continue to grow.

2. Integrate low-carbon development into corporate management
   - Based on the carrying capacity of resources and environment, strategically arrange industrial planning and project construction, improve policies for low-carbon development by fields and phases, introduce a carbon cost assessment mechanism, carry out carbon assessment of construction projects, and reduce arrangements for and investment in high-carbon emission businesses.
   - Conduct stress tests on related assets of the enterprises and strengthen management measures in the affected assets.
   - Improve the phasing-out mechanism, and gradually phase out oilfields/blocks with high energy consumption and high water cut and the refining and chemical plants with high carbon emissions per unit of product and low market demand.

3. Integrate low-carbon development into technological innovation
   - By 2030, the technical research on low carbon will share 10% of the Company’s research capacity in terms of energy conservation, emission reduction and environmental protection.
   - By 2050, the technical research on low carbon will share 10% of the Company’s innovation capacity.

4. Integrate low-carbon development into social responsibility
   - By 2030, the Company’s corporate social responsibility activities will be focused on promoting low-carbon development.
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Supporting measures

1. Enhanced carbon trading performance and carbon asset management
   - In 2020, all CNPC enterprises on the list of the national carbon emissions trading market fulfilled their contracts.

2. Strengthened management on carbon emissions
   - Issued the Methane Emission Control Action Plan.

3. Improved efficiency
   - Enhanced capabilities in energy control
     - Promoted energy control in 38 oil and gas fields and refineries.
     - Performed training on energy control standards, with more than 200 trainees.
   - Invested 860 million RMB in technical upgrading for energy and water conservation.
   - Tested and accessed the energy efficiency of more than 12,498 energy-consuming devices such as pumping units, heating furnaces, and pump units.
   - Continued to improve the greenhouse gas emission accounting and reporting management platform.

4. Reduced emissions by technological means, lowered greenhouse gas emissions in production processes, and promoted CCUS
   - Developed 18 key technologies and technical packages through low-carbon research, established 16 demonstration projects and 9 demonstration areas, and improved the low-carbon standard system.
   - Initiated major technical research projects such as “Key Technologies and Application of CO₂ Capture, Flooding and Storage” and “Demonstration Project of Key Technologies for CO₂ Capture, Flooding and Storage”, and accelerated breakthroughs in core technologies.
   - Carried out research on key CCUS technologies, and supported CCUS industrial testing in Xinjiang as well as the implementation of demonstration projects in Changqing and Xinjiang.
   - Stored more than 1.9 million tons of carbon dioxide in the CO₂-flooding demonstration project in Jilin Oilfield.

5. Participated in activities under the OGCI framework
   - Basic-formed the plan for Yangtze CCUS Industrial Hub.
   - Released the OGCI China CCUS Communication White Paper.
   - Organized and held 9 roundtables on emission reduction in transportation.

6. Built carbon sink forests
   - Established China’s first carbon neutral forest in Ma’anshan, Ma’anshan City.
   - Planted a total green area of 286.6 million square meters.
   - Planted a total of 2.811 million trees in 2020.
   - Provided support for local landscaping, with a green area of 127,233 hectares and 1,056 million trees planted.

Progress in 2020

- The Company’s domestic natural gas output accounted for 50.4% of all domestic oil and gas equivalent output.
- The Company’s domestic greenhouse gas emissions per unit of oil and gas production decreased by 8.6% from the 2019 level.
- The Company’s methane emission intensity decreased by 4% from the 2019 level.

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- Organized and held 9 roundtables on emission reduction in transportation.
- Released OGCI Annual Report 2020 jointly with member companies.
Carbon Emission Management

We pay close attention to greenhouse gas emissions. In 2020, we included "green and low-carbon" in our development strategy, implemented the Green Action Plan and the Methane Emission Control Action Plan, strengthened carbon-emission management, improved the carbon emission control system, and took an active part in the cooperation with global oil and gas industry to cope with climate change.

In 2020, we
- completed the accounting and reporting of annual greenhouse gas emissions data.
- set methane emission targets to reduce methane emission intensity by around 50% by 2035 from the 2019 level, and keep in line with world leading companies in respect of methane emission.

50%

CNPC Actively Participates in OGCI Activities to Promote Carbon Emission Reduction in the Industry

As the sole member of OGCI in China, CNPC is deeply involved in international cooperation to address climate change, and works with other OGCI members to achieve low-carbon transition in the oil and gas industry. CNPC has developed the CCUS business development plan for the "Five-Year Plan" period.

Fulfilling emission reduction commitments

Chairman Dai Huihong issued the OGCI-CEO Joint Open Letter, reiterating the commitment of OGCI and its member companies to continue to fulfill their commitments and actively promote carbon emission reduction actions against the challenge of COVID-19 and low oil prices. Together with other OGCI member companies, we issued a plan to reduce the average carbon intensity of the upstream sector. We undertake to reduce carbon intensity of our operations to 20 to 21 kg CO2 equivalent per barrel of crude oil by 2050, down from a baseline of 23 kg in 2017, and reduce the average methane intensity to below 2.51%, with the ambition to achieve 0.2%.

Issuing China CCUS Commercialization White Paper

We conducted in-depth studies on CCUS commercialization policies at home and abroad and proposed a targeted plan for China's CCUS commercialization. We also held a seminar titled "CCUS Commercialization White Paper: Goals and Actions for Oil and Gas Industry".

Promoting CNPC's methane emission control and CCUS projects

We issued the Action Plan for Methane Emission Control, and deployed and implemented the "Seven Major Projects" to push our methane emission control to a world-class level. We completed the research on the CCUS Industrial Hub in Jergang Basin. The design of the first phase of CCUS with a capacity of 1 million tce/year has passed expert verification, and the second phase will have a capacity of 3 million tce/year with a potential of 10 million tce/year. This has been affirmed by the Ministry of Ecology and Environment and the National Energy Administration.

Committing to sustainable transportation

As one of the leading companies of the OGCI transportation working group, we worked with member companies to select prior low-carbon fuel routes, invited global oil, hydrogen and road transportation sectors to the roundtable forum on emissions reduction in transportation, and hosted the online "Forum on Opportunities for Sustainable Transportation Development".

Market-based Mechanism for Carbon Saving

We actively participated in carbon trading activities to achieve carbon emissions reduction through market-based mechanisms. We are the co-founder of the Tianjin Climate Exchange (TCE), the first comprehensive emissions trading institution in China. The energy savings and emissions reduction projects developed by TCE could save more than 200,000 tons of standard coal annually, equivalent to over 500,000 tons of CO2 emission reduction. In 2020, all CNPC enterprises on the list of the national carbon emissions trading market fulfilled their contracts.
Energy Cooperation

Upholding the principle of “mutually beneficial cooperation for common development”, we give play to our advantages in integrated businesses, capital, technology and managerial expertise, and cooperate with host governments and partners in upstream, midstream and downstream. While facilitating local access to energy, we help the local areas turn their resource advantages into economic advantages and address local energy challenges, in order to meet local energy demand and maintain regional energy security.

International Energy Cooperation

We work hand in hand with the host governments and our partners to fight against COVID-19 and guarantee the stable operation of cooperation projects. We endeavor to make steady progress in overseas oil and gas cooperation. In 2020, we made fresh breakthroughs and new progress in the risk exploration of the Chad project, the progressive exploration of the Kazakhstan PK project and the Ecuador Andes project, and the deepwater exploration in Brazil. CNPC produced 176.642 million tons of oil and gas equivalent overseas, with CNPC equity production of 100.093 million tons. CNPC made contributions to meeting energy demand in host countries and supporting local economic development.

CNPC is involved in the operation and management of 62 oil and gas cooperation projects in 20 countries along the Belt and Road. In 2020, CNPC’s overseas oil and gas equity production was 84.20 million tons, at almost the same level as the previous year and accounting for 84% of total overseas oil and gas equity production.

By the end of 2020, CNPC had 98,400 Chinese and foreign employees in regions along the Belt and Road, including 89,000 local and international ones, 90% of which are local hires. More than 97% of our employees in oil and gas investment/businesses were local hires.

Through oil and gas cooperation, we have signed, obtained and put into operation a great number of important agreements, key projects and major landmark projects with our partners in more than ten countries (e.g. Russia, UAE, Iraq, Kazakhstan, and Myanmar) along the Belt and Road. Our oil and gas technologies, standards and specifications and those of key host countries along the Belt and Road have been compatible, mutually recognized and interconnected.

E&P Joint Ventures in China

We continue to make steady progress in cooperation with international partners in developing oil and gas resources in China. While deepening cooperation in conventional areas, we reinforced cooperation with IOCs in shale gas and other unconventional resources. Projects including the Changbei Project, Zhadong Project, South Sulige Project and Chuanzhong Project were in steady progress. Our domestic oil and gas production equivalent in cooperation with international partners amounted to 2.95 million tons in 2020.

International Trade

By optimizing the resource mix, we make every effort to promote the high-quality development of international trade. In 2020, we conducted international trading in over 80 countries/regions around the world, enhanced the operating capabilities of the three operation hubs in Asia, Europe and the Americas, and reported 490 million tons of international marketing volume.

Under the global operating network, we have made headway in connectivity of trade. We actively carried out trade cooperation to provide energy and gas transportation corridors, and has built an Asian operation hub and a European oil and gas operation hub, and carried out oil and gas trade cooperation with more than 50 countries along the Belt and Road, the trade volume of which accounted for 60% of our international total.

By virtue of energy and finance integration, we keep improving our financing system. We have established partnerships with domestic and overseas financial institutions such as AII and Silk Road Fund, and provided more than US$ 40 billion in investment and financing for 29 capacity cooperation projects in 17 countries.

Through cultural integration and public welfare projects, we have established a good image in connectivity of people. We leverage the advantages of upstream and downstream integration of the oil and gas industry chain. The total contract amount neatly signed and already completed in more than 30 countries along the Belt and Road accounted for nearly 70% of our total contract amount of overseas engineering services and equipment export services.

By relying on the construction of corridors, we continue to advance connectivity of infrastructures. We helped build the Central Asia-China Gas Pipeline, Kazakhstan-China Oil Pipeline, Russia-China Oil & Gas Pipeline and Russia-China Gas Pipeline, Myanmar-China Oil & Gas Pipeline and Eastern Maritime Transport Corridor, and built a transnational oil and gas pipeline network covering the core areas of the Belt and Road to drive economic and social development in the countries along the Belt and Road.

Through oil and gas cooperation, we have provided services and equipments to more than 30 countries along the Belt and Road, and account for nearly 70% of total contract amount. The total contract amount newly signed and already completed in more than 30 countries along the Belt and Road accounted for nearly 70% of our total contract amount of overseas engineering services and equipment export services.
Responsible Operations

We are always committed to the principle of "people-centered, quality foremost, safety first, environment prioritized" to achieve "zero defects, zero injuries and zero pollution". We regard minimizing environmental impact, reducing emissions, and providing high-quality products and services as the strategic foundation for the Company’s sustainable development. We continue to improve the quality management of products and services, and promote safe, environmentally-friendly and resource-saving operations, in order to promote the construction of an ecological civilization and develop a resource-saving and environmentally-friendly enterprise.

Safe Operation

We actively promote the building of a long-acting safety system and comprehensively enhance our work safety management. In 2020, the Company maintained a stable improvement in safety performance.

Management System and Performance Assessment

In 2020, we released some rules and regulations on safety management, such as the Administrative Measures for All-staff Work Safety Scoring in Enterprises and the Measures for Administration of Work Safety Contract Points, strengthened the fulfillment of work safety responsibilities by all employees, continued to promote work safety interviews and debriefings as well as performance assessments, and strengthened the safety performance appraisal of units and all employees. We have increasingly improved our safety management system with distinctive levels, hierarchical responsibilities, and coverage of all employees.

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<th>Content of safety and environmental protection performance assessment</th>
<th>Work safety interviews and debriefings</th>
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Hazard Control

We attach equal importance to both prevention and control of hazards, and build a long-acting mechanism for hazard control, so as to ensure all hazards are timely and effectively treated and enhance the overall safety performance of the Company.

In 2020, we comprehensively pressed ahead with the Three-year Action Plan for Special Rectification of Work Safety, strengthened hazard control in key areas such as oil and gas gathering and transportation pipelines, carried out centralized treatment for work safety in key areas such as gas storage operation, sour natural gas development, fracturing treatment, well control management, and city gas, promulgated safety prohibitions in key areas and key links, conducted multiple rounds of special supervision on well control, treated 212 external floating roof tanks with oil and gas concentration in the secondary seal exceeding the limit, and rectified more than 5,800 hazards in oil and gas field gathering and transportation pipelines.

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Safety Risk Management

We implement a dual-prevention mechanism covering risk prevention and control and hazard identification and treatment for production safety, and improve the sound classified risk prevention and control system, so as to eliminate safety risks and potential hazards to prevent accidents.

In 2020, we

- Improved the dual-prevention mechanism covering risk prevention and control and hazard identification and treatment for production safety, and carried out classified supervision and targeted responses to risks in our subsidiaries.
- Comprehensively identified any changes in safety hazards during the reform and adjustment such as the oil and gas pipeline network reform and "water/power/heating supply and property management".
- Developed a work plan for strengthening safety hazard control in increasing oil and gas reserves and production capacity.
- Carried out spot checks on the implementation of prevention and control measures for key risk wells such as oil and gas wells in densely populated areas.
- Carried out targeted inspections on work safety and special safety risk assessments for key projects for offshore oil and gas production in spring, and strengthened emergency protection against typhoons.

Supplier Safety

We include suppliers and contractors in our safety management, and conduct systematic management of their access, selection, training, use, evaluation and assessment, in order to prevent and reduce accidents caused by suppliers and contractors. In 2020, we strengthened the selection of high-quality strategic contractors, strictly implement measures for "zero tolerance for unqualified contractors", and carried out training for key positions of contractors and refused to hire those who failed the examination.

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14.3%

In 2020, the contractor accident rate dropped from an average of 49.1% in the first four years of the "13th Five-Year Plan" period to 14.3%.

Overseas Security Management

Personnel safety has always been an overriding priority in our operations. We established and improved the social security management system, fully strengthened social security risk prevention and control, and continuously enhanced emergency response capabilities. In 2020, in response to COVID-19 and through measures such as establishing a four-level overseas (intention prevention and control mechanism and regional coordination groups covering 78 countries (regions)) around the world, we registered no deaths from COVID-19 overseas or social security fatalities in our overseas projects.

Key Actions for Overseas Security in 2020

- Reviewed the five-dimensional performance appraisal and emergency response plan of social security management, and upgraded 6 social security management standards at the CNPC level.
- Improved country-specific risk assessment indicators, continued to follow security situation of key counties, carried out security risk assessments, and adjusted the security risk levels of 13 counties (regions).
- Organized video seminars on kidnapping risk response and hotspot situation analysis against the background of regular pandemic prevention and control, and shared security resources.
- Issued 11 safety alerts.
- Strictly reviewed and approved the establishment of security risk control and security plans for new projects in the countries (regions) with high and above risks.

2,800 contractors

In 2020, 2,800 qualified contractors, 1,338 disqualified contractors and 1,465 reviewed contractors.

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Environmental Protection

We take the initiative to evaluate the environmental impact of our management and activities, and make efforts to reduce adverse effects on the environment and climate. We endeavor to enhance resource utilization efficiency, resolutely win the battle against pollution, promote energy conservation and emission reduction, strive to achieve environmentally-friendly and resource-saving operations, and vigorously advocate ecological civilization, in order to achieve harmonious development with the environment.

Strengthening Risk Prevention and Control

We carried out environmental risk identification and assessment and implemented a risk prevention and control management model focusing on environmental forecasting, pre-warning and monitoring. We began the environmental risk management at an earlier stage and established a sound risk management mechanism featuring “layered management and graded prevention and control”, in order to ensure overall control over environmental risks. In 2020, no major environmental accidents were reported.

Progress in Environmental Risk Management Mechanism in 2020

- Issued the Notice on Carrying Out the Identification and Treatment of Ecological Hazards in 2020
- Formulated the Implementation Regulations for the Identification of Ecological Hazards (for Trial Implementation)
- Carried out the identification and treatment of ecological hazards
- Strengthened accountability for accidents
- Revised the Measures for Environmental Emergency Management
- Strengthened the management and control of environmental emergencies and environmental violations, and implemented escalation investigation and escalation handling of environmental incidents

Case

CNPC Contributed to the Battle for Clean Land and Was Affirmed by the Ministry of Ecology and Environment

As a test unit for national enterprise land survey and in active response to the requirements of the Ministry of Ecology and Environment, CNPC has developed the CNPC Work Plan for Soil and Groundwater Environmental Investigation, and invite national-level experts to regularly conduct special training for corporate personnel to ensure that the participants master the management and technical requirements in a timely manner. By the end of 2020, CNPC had completed all investigations, with a pass rate of 100% as checked by the Chinese government. In February 2021, the Department of Soil Ecology and Environment of the Ministry of Ecology and Environment praised CNPC for its outstanding performance in the investigation of the soil pollution status of land of enterprises in key industries across the country.
In 2020, we completed the Pollution Control Upgrade Plan.

- Implemented the List of Pollution Prevention and Control Projects 2020
- Developed the Work Plan for Strengthening Ecological and Environmental Protection of the Yellow River Basin
- Completed anti-seepage upgrading of gas stations
- Accomplished missions and goals for blue sky, clear water and pure land

Online monitoring of pollution sources

CNPC’s online pollution source monitoring system is an advanced technology that is flexible, efficient, intuitive and intelligent. It integrates the Internet Plus and big data for automatic identification and judgment of missing and abnormal data, classification alarms for excessive emission abnormal data, intelligent prediction of pollutant emission data, calibration and statistics of multi-parameter emission data and other functions. With this system, the pollutant discharge units can realize all-round and intelligent management and control of major equipment and emission sources.

As of the end of 2020, 680 pollution sources were monitored through the network, all the key pollution sources on the List of Enterprises subject to Intensive Monitoring and Control of the State were put under control. All elevated emission sources in the Beijing-Tianjin-Hebei region and its surrounding areas were under control. The automatic monitoring of pollution sources covered all major equipment and emission sources of CNPC.

Water Resources Management throughout the Industry Chain

- In oil and gas development, equal importance was given to both water pollution prevention & control and water recycling. After the oil-water separation and filtration treatment of the recycled wastewater, oil recovery and water rehydration were both realized, preventing groundwater and surface water contamination.
- We carried out water system maintenance and revamping, improved the water qualification rate, optimized operation programs, upgraded wastewater discharge and treatment processes to reduce water discharge, and promoted the application of new technologies for water treatment to maximize water conservation.
- We focused on managing the impact on water resources by construction projects and the risk of leakage accidents during pipeline operations. Environmental impact assessments (involving water environment) were conducted, and water conservation and protection concepts and awareness were integrated into construction and operation activities.
- We improved water consumption efficiency by promoting clean production processes, saving water at the source, and optimizing water consumption systems. We increased the concentration time of circulating water to reduce water supplement, and strengthened steam condensate water recovery to achieve water saving. In addition, we emphasized wastewater treatment and reuse to reduce wastewater discharge and improve the industrial water recycling rate, and enhanced underground pipelines to reduce groundwater leakage risk.

10.33 million cubic meters

In 2020 the Company saved 10.33 million cubic meters of water.

Sustainable Use of Resources

We attach great importance to the protection and rational utilization of resources. We strengthen the protection of water, conservation of freshwater and rational use of land, and strive to improve energy and material utilization efficiency to minimize resource consumption.

Water Resources

We endeavor to improve water utilization efficiency and realize sustainable use of water throughout various links in our production and operation activities. Through strengthening water utilization process management, adopting technologies for water-saving and wastewater treatment and recycling, and integrating water-saving indicators into performance evaluation and other measures, we worked to reduce the use of fresh water. Our fresh water consumption decreased by 44.7% year-on-year. Dushanzi Petrochemical Company was awarded the “Water Efficiency Leader among Key Water-using Enterprises in the Ethylene Industry in 2020” by four ministries including the Ministry of Industry and Information Technology.

Water Resources

- In oil and gas development, equal importance was given to both water pollution prevention & control and water recycling. After the oil-water separation and filtration treatment of the recycled wastewater, oil recovery and water rehydration were both realized, preventing groundwater and surface water contamination.
- We carried out water system maintenance and revamping, improved the water qualification rate, optimized operation programs, upgraded wastewater discharge and treatment processes to reduce water discharge, and promoted the application of new technologies for water treatment to maximize water conservation.
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Reducing water pollution risks through three-tiered pollution prevention and control system

We set up a safe, timely and effective pollution prevention and control system, conducted environmental risk assessment, and adopted necessary preventive measures to control water pollution risks and prevent oil spill accidents.

Tier 1 prevention and control system

- Prevent possible minor pollution risks by setting up cofferdams, fire dykes in storage tank farms and supporting facilities.

Tier 2 prevention and control system

- Prevent possible major pollution risks by setting up rainwater cutting systems, waste barrier, anti-overflow and diversion facilities, as well as necessary intermediate accident buffers and supporting facilities.

Tier 3 prevention and control system

- Prevent possible serious pollution risks by setting up terminal accident buffers and supporting facilities.
Land Resources
Based on the principle of scientific siting, efficient use, proper protection, and timely restoration and through innovation in land-saving technologies and management models, we made careful and intensive use of land during production, strictly controlled land use growth, made good use of land in various ways, proactively reclaimed land, carried out environmental treatment and recovery in mining areas, and enhanced land use efficiency. In 2020, we saved 1,190 hectares of land.

Waste Disposal and Ecological Restoration
We attach great importance to the supervision of hazardous waste and realize the whole-process management and control platform for hazardous waste, and put in place a three-level management and control mechanism in key areas under ecological and environmental risks. We have established a unified whole-process management and control platform for hazardous waste, and put in place a three-level management and control mechanism in key areas under ecological and environmental risks. We have established a unified whole-process management and control platform for hazardous waste, and put in place a three-level management and control mechanism in key areas under ecological and environmental risks.

In 2020, we strengthened VOCs emission control and promoted VOCs management and control and benchmarking actions of refineries. Refined oil sales companies carried out “oil unloading at night, off-peak refueling” in key areas in summer, which was highly recognized by the local ecological and environmental authorities.

Conservation of Biodiversity and Natural Habitats
We are devoted to reducing the potential influence on the environment and biodiversity during production and operation. We exercise management and control at source and implement environmental management in the full life cycle throughout the industry chain. We make an all-out effort to identify and address environmental pollution and ecological damage, and reduce the impact on the ecological environment by various means, including reducing noise and emissions.

We withdraw from environmentally sensitive areas in an orderly manner, do our utmost to reduce the occupation of cultivated land, protect water and land, and restore vegetation, so as to conserve the ecological environment in the working areas. In 2020, we demobilized 281 oil, gas and water wells in environmentally sensitive areas, and completed the anti-seepage reconstruction of 20,300 active service stations.

Protecting the Environment and Promote Green Development
Daqing Oilfield
Daqing Oilfield is located on the coast of the Bohai Sea, home to a variety of environmental forms such as wetlands, reserves, rare species, tidal flats, and farmland. Every year, hundreds of thousands of birds inhabit and stay in the Bohai Bay National Ecological Demonstration Zone, including endangered birds such as Oriental Storks. To protect this local environment, Daqing Oilfield:

- Innovated production methods and implemented clean production.
- All wastewater and waste gas from fixed sources were discharged in compliance with specified discharge standards and all solid waste treated in compliance with standards.
- Applied the technology “with no mud on ground”, which doesn’t need mud pit.
- Changed the production mode from “one pad for one well” to “one pad for multiple wells”, and kept the source far away from environmentally sensitive areas.

Daqing Oilfield
The Ecological Demonstration Zone of Daqing Oilfield was originally in an area with many dry lakes, saline-alkali land and other bare land, making its ecological treatment far more difficult and complex than other areas in the oilfield.

To address this challenge, Daqing Oilfield made preparations for voluntary tree planting and planted trees. Today, in the Ecological Demonstration Zone of Daqing Oilfield, there are:

- More than 346,000 seedlings
- More than 5.017 million purple osiers on the banks of rivers, canals and lakes
- More than 1,000 mu of Gesang flower
- More than 36 hectares of seedlings
Responsible Operations

2020 Corporate Social Responsibility Report

Following the quality principle of “Integrity and Excellence”, we strengthen the quality management system and improve process quality control to create brand products. In addition, we continue to promote high-quality development for the Company by consistently improving product, project and service quality.

Quality Control

In 2020, CNPC continued to enhance quality management, focusing on quality system audit, quality supervision and inspection, and quality culture building. No major quality accidents were reported.

Major Progress in Quality Management in 2020

<table>
<thead>
<tr>
<th>Key work</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve product quality</td>
<td>• 25 aviation fuel production companies passed the airworthiness certification of civil aviation fuel issued by the Civil Aviation Administration</td>
</tr>
<tr>
<td></td>
<td>• 4 sets of jet fuel production equipment passed the jet fuel certification of the National Aviation (Naval) Fuel Appraisal Committee, adding 2.66 million tons of jet fuel per year</td>
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<tr>
<td></td>
<td>• Carried out quality supervision and random inspections such as special inspections over national VIB oil quality focusing on external oil production</td>
</tr>
<tr>
<td>Initiate centralized improvement of oil, gas and water well quality</td>
<td>• Prepared the Three-year Action Plan for Centralized Improvement of Oil, Gas and Water Well Quality</td>
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<td></td>
<td>• Initiated 4 special rectification actions (including the action for treating casing damage wells and casing deformation wells)</td>
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<td></td>
<td>• Established the oil (gas) well engineering quality supervision station</td>
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<td>• Clarified the seven red lines for the determination of unqualified well quality and cementing quality</td>
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<tr>
<td>Carry out quality culture building</td>
<td>• 10,800 QC teams, 3,626 teams, 187,000 employees participated in mass quality activities</td>
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<tr>
<td></td>
<td>• Over 550,000 employees attended the quality management contest organized by the State Administration of State-Owned Assets Commission</td>
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<tr>
<td></td>
<td>• Conducted customer satisfaction surveys</td>
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</tbody>
</table>

Products and Service

Following the quality principle of “Integrity and Excellence”, we strengthen the quality management system and improve process quality control to create brand products. In addition, we continue to promote high-quality development for the Company by consistently improving product, project and service quality.

Product Management

We provide consumers with products according to legal provisions and industrial standards in a responsible way. While providing products, we put emphasis on the influence on consumers and guarantee product safety. Meanwhile, we actively communicate with consumers, publish product safety risk evaluation results and make great efforts to protect consumers’ legal interests.

Changqing Oilfield is China’s largest oil and gas field. In the process of increasing production to 60 million tons, we continue to focus on the creation of green fields, strengthen the prevention and control of oil and gas field pollution and take concrete actions to implement ecological protection and high-quality development in the Yellow River Basin.

Create Green Fields and Build Ecological Demonstration Oilfields

Environmental protection

- Nearly 1,000 oil, gas and water wells and dozens of stations have been demobilized from environmentally sensitive areas and ecological restoration has been carried out in time for the demobilized wells and stations
- 20 ecological environment protection zones and more than 800,000 mu of carbon sink forest were built in Longdong oil area
- 3 million square meters of green plants are added every year in the oil and gas development area, with a green coverage rate of 95%

Green production

- 5 natural gas purification plants with exhaust gas treatment devices, reducing SO2 emissions by thousands tons per year
- 142 site heating furnaces changed from coal (oil) to gas
- From 2018 to 2020, removed 3,968 coal-fired heating furnaces at the wellhead
Quality Products and Services

Providing Quality Products. By strengthening technological innovation and optimizing the product mix, we provided safe, reliable, high-quality and environmentally friendly products for our customers. In 2020, we further increased the proportion of high-end, high-performance products. The output of high-grade gasoline increased by 52% over 2015; the output of chemical products increased by 29% over 2015; the output of high-performance products such as PX, synthetic resin, and synthetic rubber increased by 21%, 74%, and 10%, respectively.

Promoting Service Level. We constantly improve consumer experience and provide consumers with convenient and efficient services. In 2020, we continued to promote smart service stations, and worked to meet consumers’ all-round needs: “people, vehicle and life.” As of the end of 2020, our 22,600 serve stations provided services and efficient services. In 2020, we continued to promote smart service stations, and worked to meet consumers’ expectations.

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<table>
<thead>
<tr>
<th>High-quality chemical products</th>
<th>New chemical products</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.345 million tons Ethylene production amounted to 6.345 million tons</td>
<td>482,000 tons an increase of 482,000 tons</td>
</tr>
<tr>
<td>10.287 million tons Synthetic resin production amounted to 10.287 million tons</td>
<td>707,000 tons an increase of 707,000 tons</td>
</tr>
<tr>
<td>1.001 million tons Synthetic rubber production amounted to 1.001 million tons</td>
<td>91,000 tons an increase of 91,000 tons</td>
</tr>
</tbody>
</table>

Supply Chain Management

We uphold the supplier management philosophy of global sourcing, open cooperation, resource sharing, mutual benefit and win-win relationships, and exercise a life cycle closed-loop management of suppliers. We incorporate environmental, quality and occupational health and safety management system certification into our Tier 1 supplier standards. We provide guidance to our suppliers on legal and ethical business operation and fulfillment of corporate social responsibilities. Suppliers and contractors shall comply with CNPC’s unified quality, environmental, health and safety standards and relevant anti-commercial bribery and anti-corruption policies and regulations, and continue to improve the reliability and environmental sustainability of products and services, and protect the human rights of employees to fulfill demand for personal development.

CNPC is committed to interconnection and interaction with its suppliers, resorting to various means to understand their concerns and claims via a well-established mechanism for constant communication. In 2020, we spent RMB 168.3 billion in procurement, and cooperated with 23,699 material suppliers at home and abroad.

Key Initiatives for Supplier Management in 2020

- Strengthened the whole-process management of suppliers from supplier admission to supplier withdrawal, continued to optimize the resource structure of suppliers, and gave priority to access to energy-saving and environmentally friendly products and those with independent intellectual property rights
- Strengthened the supervision and risk control for suppliers over quality, safety, environmental protection and other aspects, and ensured suppliers to operate with goodwill, integrity and compliance
- Strengthened cooperation with suppliers in multiple areas, and communicated with suppliers in various aspects such as environmental protection and sustainable development to seek more opportunities for cooperation
- Evaluated 4,123 products from 1,426 Tier 1 suppliers, with a dynamic quantitative evaluation rate of 100%, incorporated corporate strength, product innovation, and integrity and compliance into the evaluation system, and performed classified management for suppliers (A, B, C and D), and applied the evaluation results to supply chain building
- Implemented professional management and dynamic supervision, strictly regulated market access, real-time online evaluation and annual evaluation, and established an improved supervision mechanism
- Launched special campaigns to investigate and punish officials and their relatives in violation of regulations for running enterprises, providing convenience and seeking benefits for relatives and friends
- Used big data platforms to cross-correlate the corporate information of traders, agents, and suppliers, and identified clues to problems
- Strengthened the functional application of the joint supervision information system, and actively supervised to find clues to problems
People-oriented Employee Development

Employees are our most valuable resource and asset, and the Company’s development and success are attributed to the joint efforts of all our employees. Upholding the people-oriented concept, we attach great importance to protecting employees’ legal rights and interests, build an effective platform for employees to develop, and promote employee localization and diversification. We care about the physical and psychological health and life of our staff, to make all employees benefit from our achievements and realize the common development of both our Company and employees.

Employment Policies

CNPC always puts people first and values and safeguards the lawful rights and interests of the employees. We strictly comply with the Labor Law of the People’s Republic of China, the Labor Contract Law of the People’s Republic of China and the Trade Union Law of the People’s Republic of China, relevant international conventions approved by the Chinese Government, and relevant laws and regulations of the host countries. We promote equal and non-discriminatory employment policies, and provide equal opportunities and fair treatment to all employees regardless of nationality, race, gender, religion or cultural background; resolutely prohibit child labor and forced labor; and always aim to promote the employment of women and ethnic minorities. Specifically, we strictly implement the regulations on pregnancy, maternity and parental leave for female employees, and guarantee that the female employees enjoy equal compensation and benefits and career development opportunities. By the end of 2020, the Company had 65 female senior executives and 1,457 female middle-level managers.

Compensation and Incentives

We intensified our efforts to reform the remuneration system, improve policies on enterprise annuity and supplementary medical insurance, and further improve the salary distribution system by linking it closely with performance appraisal results. In 2020, we made special incentive and restraint measures for quality and efficiency, improved the differentiated salary distribution mechanism, and promoted the dividend-based incentive policy in technology enterprises. We implemented the multi-factor salary distribution mechanism in a well-planned way, giving the top priority of income to the entities with tremendous benefit contributions and high input-output efficiency, to employees working at grass-roots level and in key positions, and to badly needed high-level, high-tech and highly-skilled talents.
Democratic Participation

We ensure that our employees play an important role through democratic management, participation and supervision. We have established the trade unions, put in place a democratic management system through workers’ congress and adopted a transparent approach to factory affairs. Specifically, we have further standardized the content, procedures and model of our open system for factory affairs by clarifying rights and obligations, organizational system, and working procedures for the workers’ congress. By doing so, the Company has improved our enterprise democratic management.

We have established multiple channels to communicate with the employees, continued to implement democratic procedures, and solicited the employees’ opinions by holding workers’ congress, democratic discussion meetings, and employee representative symposiums. Besides, we guarantee the employees’ rights to know, participate, manage, vote and supervise according to law, and encourage them to offer advice and suggestions for the enterprise development.

We provide a broad arena for employees to realize their self-value by addressing their need for professional development at different stages, respecting their career planning, and creating an innovative environment, system and mechanism and building a resource guarantee system for their development.

Education and Training

We adopt a “two-level planning and three-level training” management mechanism to make the employee training more extensive and effective. We carry out the “Internet Plus training” to tap the value of human resources. We deliver diversified and differentiated ways of job training through continuous innovation. Thus, a learning culture is created for the growth of both the Company and individuals, and the quality and capability of our workforce are improved.

In 2020, we kept performing high-quality training for our staff despite of the epidemic outbreak. Totally, we organized 5,600 in-person training programs (incl. 158 programs at the headquarters level), benefiting more than 20,000 employees.

Major Training Programs of “Four Types of Personnel” in 2020

<table>
<thead>
<tr>
<th>Type of Personnel</th>
<th>Training Programs</th>
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</thead>
<tbody>
<tr>
<td>CNPC Party School training classes</td>
<td></td>
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<tr>
<td>Leadership improvement training courses</td>
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<tr>
<td>Strategic leadership training courses</td>
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<tr>
<td>Training courses for young and middle-aged managers</td>
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<tr>
<td>Training programs for person in charge of Party building, Secretary of discipline committee and chief accountant</td>
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<tr>
<td>Training programs for division-level cadres at key positions</td>
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<tr>
<td>Courses for improving the capabilities of candidates for Key Talent Project</td>
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<tr>
<td>Expert refresher programs in Tsinghua University, Beijing Institute of Technology and other colleges/universities</td>
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<tr>
<td>Demonstration training programs for principal professional senior technical talents</td>
<td></td>
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<tr>
<td>“Thousand People Training Project” for international talents</td>
<td></td>
</tr>
<tr>
<td>Special training for innovation of frontline working techniques</td>
<td></td>
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<tr>
<td>Academic seminars for technical experts</td>
<td></td>
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<tr>
<td>Demonstration training courses for team leaders to improve their competence</td>
<td></td>
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<tr>
<td>Demonstration training programs for high-caliber technical personnel</td>
<td></td>
</tr>
<tr>
<td>Petroleum Craftsman Development Program</td>
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</tbody>
</table>

Career Development Platform

We provide a broad arena for employees to realize their self-value by addressing their need for professional development at different stages, respecting their career planning, and creating an innovative environment, system and mechanism and building a resource guarantee system for their development.

Strengthened the building of standard systems for job training

- Held the first training program design competition from the perspective of standardized job training, which can serve as a collated and shared platform for talent cultivation
- Started to establish a qualification standard system for personnel cadres and defined the structure and sequence of relevant training system

Promoted the “Internet Plus Training”

- Launched the “CNPC e-learning”, a smart cloud learning platform integrating mobile learning, training management, and knowledge management
- Provided 252 training programs in a form of live broadcast teaching, and online workshops/exams

In 2020, we...

- CNPC Party School training classes...
- Couses for improving the capabilities of candidates for Key Talent Project...

100% 100% of our employees sign the collective contract

100% 100% of them are covered by social insurance

RMB 1.45 billion training fund was provided in 2020

16,626,000 persons attended in-person training

693,000 persons attended Internet-based training

8,400 training programs were provided in 2020

21 million class-hours were delivered in 2020

100% high-caliber technical personnel and critical operational personnel were trained

100% of our employees sign the collective contract

100% of them are covered by social insurance

100% of our employees sign the collective contract

100% of them are covered by social insurance
Rewards and Incentives

We provide spiritual and material rewards/incentives to employees through selecting model workers, advanced workers, technical experts and academic leaders, and encouraging our employees to enter for international and domestic award contests.

Individual/Collective Winners of National Awards in 2020

<table>
<thead>
<tr>
<th>Award</th>
<th>National Model Worker</th>
<th>National Outstanding Communist Youth League Cadre</th>
<th>National Outstanding Communist Youth League Member</th>
<th>National Safety Demonstration Post</th>
<th>National May Fourth Red Flag Youth League Committee</th>
<th>National May Fourth Red Flag Youth League Branch</th>
<th>National Civilized Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Model Worker</td>
<td>36</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>National Outstanding Communist Youth League Cadre</td>
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<tr>
<td>National Outstanding Communist Youth League Member</td>
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<tr>
<td>National Safety Demonstration Post</td>
<td>4</td>
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</tr>
<tr>
<td>National May Fourth Red Flag Youth League Committee</td>
<td>2</td>
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<td></td>
</tr>
<tr>
<td>National May Fourth Red Flag Youth League Branch</td>
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<td></td>
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<tr>
<td>National Civilized Unit</td>
<td>9</td>
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</table>

We improve employees’ vocational skills and professional abilities through the combination of training and competition such as vocational skills competitions. Through these measures, we promote the development of front-line employees.

Vocational Skills Competitions Held or Attended by CNPC in 2020

<table>
<thead>
<tr>
<th>Vocational Skills Competitions Held or Attended</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Vocational Skills Competition for Oil and Gas Field Development</td>
<td>In more than 50 vocational skills competitions with a total of 250,000 participants, 47 gold medals, 75 silver medals and 112 bronze medals were granted at the CNPC level or above. 8 employees were named the “National Technical Expert”, over 500 employees were exceptionally promoted for their higher skills.</td>
</tr>
<tr>
<td>The 12th National Vocational Skills Competition for Petroleum and Chemical Industry</td>
<td></td>
</tr>
<tr>
<td>Vocational Skills Competition for Operators of 5 Mt/a Atmospheric &amp; Vacuum Distillation Unit in Refinery</td>
<td></td>
</tr>
<tr>
<td>The 29th Sun Yueqi Energy Science &amp; Technology Award</td>
<td>1 winner of Grand Energy Prize and 20 winners of Youth Technology Prize</td>
</tr>
<tr>
<td>The 2nd National Award for Excellence in Innovation</td>
<td>1 winner of National Award for Excellence in Innovation</td>
</tr>
</tbody>
</table>

Hongtu Road Service Station Awarded the “National Advanced Collective for Fight against COVID-19”

At the meeting to commend role models in China’s fight against COVID-19, the Hongtu Road Service Station of PetroChina Hub Marketing Company was awarded the “National Advanced Collective for Fight against COVID-19”, recording the only filling station with this honor in China. This supreme honor represented the enormous contribution of the 20-personnel service team of Hongtu Road Service Station led by the manager Ma Ting, and all staff of PetroChina Hub Marketing Company and even the entire CNPC in the anti-pandemic fight.

The Wuhan Hongtu Road Service Station is adjacent to Jinyintan Hospital and “Wuhan Livingroom” Makeshift Hospital, a special location putting it at the highest risk during the Wuhan pneumonia epidemic. To fight against COVID-19, the Station stood open around the clock, with all personnel remaining at their posts to (1) ensure the oil supply to ambulances in nearby hospitals, and such organizations as the epidemic control headquarters, and (2) provide home delivery services to the residents in nearby communities by delivering vegetables and other necessities of life in urgent need to the isolation points. During the 67-day fight against the epidemic in Wuhan, the Station supplied totally 93.9 tons of fuel oil via 36 trips to 334 vehicles of the Jinyintan Hospital and Wuhan Livingroom Makeshift Hospital.

Careers Development

We attach great importance to the career planning of employees and support their career development to realize their value. In 2020, we continued to promote professional-rank personnel management and improve the mechanisms of dynamic job transfer and incentive mechanism to fully unleash the potential of employees and provide technical professionals with independent, unimpeded and stable career development paths. We implement the Oil Scientists and “Petroleum Craftsman” training programs and Outstanding Young Technician Training Project, so as to open channels for the growth of innovative talented people.

In 2020, we had 2 personnel selected as the members of the 8th Academic Degree Appraisal Group under the Academic Degree Committee of the State Council.
Progress in Improving the Professionals Development Mechanism in 2020

System reform
- The professional-rank personnel management was promoted.
- A special plan for personnel development in the “14th Five-Year Plan” period was established.
- Job setting and staff selection were completed in 15 enterprises/institu-
tions.

Platform expansion
- Academic seminars as strategic advisors, were gathered in academic and technical exchanges.
- The expert consultation program was conducted, with 44 suggestions proposed.
- RIPED was designated as a demonstration base for training innovative talents.
- BGP INC. was approved to build a demonstration base for attracting talents.
- PetroChina Petrochemical Research Institute was approved to establish a post-doctoral research workstation.

Environment optimization
- A total of 35 candidates for the Outstanding Young Technician Training Project were assigned to China University of Petroleum (Beijing) for selected courses.
- A total of 21 scientific and technological innovation talents were introduced.
- One personnel won the 2nd National Award for Excellence in Innovation.

Local Hiring and Diversity

We embrace a respectful, open and inclusive culture, and are committed to the localization, professionalization and marketization of overseas employees. We abide by all laws and regulations of the host countries. We establish an optimal system for hiring, deployment, performance appraisal, incentives and penalties. We strive to attract and train top local talents and to provide them with a working environment conducive to their employee development.

Local Employment

We actively recruit and train local employees and do not discriminate against local candidates for managerial positions, providing local people with job opportunities. Professionals employed in our overseas projects involve multiple disciplines, such as exploration and development, engineering construction, international trade, finance, accounting and human resources management, covering over 80 countries/regions. As of late 2020, we had a total of 120,000 Chinese and foreign employees overseas, including 105,000 local and international employees, and representing an average local employment rate of 88% (95% for the investment business).

Respect for Cultural Diversity

We respect our employees’ individuality, ability and varied experiences, and cherish their diversified talent. We make all efforts to eliminate the employment and occupational discrimination, create a relaxing and tolerant working environment, and promote the mutual respect and understanding among employees of different nations, areas and cultural backgrounds.

Case

Liang Nanyu, a CNPC Cadre Devoted to the Poverty Alleviation in Shuanghu County, Tibet

Liang Nanyu is a CNPC’s cadre dispatched in 2016 for panel assistance to Shuanghu County, Tibet, a place with sparse population (only 1 person/8 km²). During his term, Liang traveled more than 100,000 kilometers to all villages in Shuanghu for purpose of poverty alleviation activities. While defining the focus of support from enterprises to people’s livelihood and business, Liang paid attention to local capacity for independent development. In 2019, Liang saw the expiration of his term, but he decided to stay for another three years to continue the artemia cysts project and his efforts with local people. Over the past four years, Liang worked hard with the people of Shuanghu to improve medical services and education and carry out business conducive to poverty alleviation. Finally, a CNPC model for poverty alleviation integrating “basic research + ecological protection + industrial upgrading” was emerged. By virtue of this model, the Shuanghu County was eventually lifted out of poverty in 2019.

For good work performance, Liang was honored the “Most Beautiful Person to Support Frontier Regions”, “Role Model of Central Enterprises”, and “Advanced Individual in the Fight against Poverty”.

“As CNPC members, we will follow the spirits of Daqing and iron men” in the petroleum industry all the time. We do not fear hardships, as long as we can let the people at an altitude of 5,000 meters live better!”

— said Liang Nanyu

Proportion of local employees in CNPC’s overseas business in 2020 (%)
Physical and Psychological Health

We cherish employees’ life and attach great importance to their health. We strive to provide a favorable working environment for the physical and psychological health of our employees and have established a mental health platform and introduced a series of policies and measures to guarantee their physical and psychological health.

Occupational Health

We attach great importance to staff occupational health protection. In 2020, we carried out pilot health risk assessments and occupational health surveys, and organized the event of the Publicity Week of the Law on Prevention and Control of Occupational Diseases to improve the occupational health status of employees. We issued the Plan for Implementing the “Healthy China 2030” Outline, specifying 12 main tasks and 38 specific activities, as well as the requirements for employees’ mental health, physical health, and prevention and control of infectious diseases, depending on our professional characteristics and experience in COVID-19 prevention and control.

Mental Health

We took measures to continuously improve the employee vacation system. We implemented the Employee Assistance Program (EAP), set up hotlines and websites for psychological counseling, and carried out various forms of training on mental health improvement, in order to build a positive and healthy mindset for employees. In 2020, as the COVID-19 pandemic was raging overseas, we set up a team of psychological counseling experts and continued to promote the psychological hotlines for overseas employees. Our counseling service under the Employee Assistance Program (EAP) overseas has become an effective means for psychological assistance that most overseas employees and their families accept and trust. These efforts have ensured the mental health of overseas employees and the safe, stable operation of our projects.

Caring for Employees

We advocate a good work-life balance and make great efforts to create a healthy and comfortable living environment for our employees. We continuously improve the poverty alleviation and aid mechanism, in order to improve the employees’ quality of life.

Employees Assistance

We continuously carried out employee help and support activities, focusing on the settlement of life difficulties of the employees, including retirees, employees’ family members and family dependants of the deceased. In 2020, we got to fully understand the difficulties confronting employees in daily life: health status, children education, etc., and took targeted measures to help the employees in need, especially those in extreme poverty, through a variety of effective campaigns such as charity, voluntary service and student subsidies.

Cultural and Sports Activities

We set up cultural and sports associations, which are responsible for organizing a variety of cultural activities, sport competitions and knowledge games to enrich employees’ spare time and enhance their overall quality and team cohesion.
Public Welfare

We always adhere to combining our business growth with sustainable development of the host countries in which we operate. We aim to become an outstanding business enterprise in the host country by attaching importance to people’s livelihood and social progress, sharing development opportunities and resources with the local community, participating actively in the development of local communities and promoting harmonious economic and social development.

At the Poverty Alleviation Commendation Conference hosted by the State Council Leading Group Office of Poverty Alleviation and Development, CNPC was awarded the “National Award for Innovation in Poverty Alleviation” for its outstanding contributions to poverty eradication.

Poverty alleviation is an important topic in sustainable development around the world and also one of our key concerns. We have responded positively to the initiatives of the United Nation’s 2030 Agenda for Sustainable Development and to the Chinese government’s policies on poverty alleviation targeted at the improvement of people’s livelihood, industrial development, intellectual development and medical care. By combining our business strengths with local resources and market advantages in areas receiving assistance, we have taken targeted measures to help them develop the local economy on their own.

We actively work out our solutions and make our contributions to poverty alleviation. In 2020, we invested RMB 172 million and continued to carry out fixed-point poverty alleviation and aid programs, and implemented 84 projects, including infrastructure reconstruction, education and training, healthcare, and industrial collaboration in 13 counties and districts in 7 provinces (municipalities and autonomous regions) of China - Xinjiang, Tibet, Qinghai, Chongqing, Henan, Jiangxi and Guizhou.

Targeted Poverty Alleviation

At the 16th International CSR Forum hosted by China News Service and News China, CNPC was honored as 2020 Responsible Corporate of the Year.

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CNPC initiated a rural tourism project for poverty alleviation – “Vernacular B&B Town alongside Yellow River” in Jiangzhuan Village, Taiqian County, Henan Province. The project has brought a more attractive environment, smoother roads and better life to local residents.
CNPC’s Contributions to Poverty Alleviation

CNPC has an inherent sense of responsibility and mission for the cause of poverty alleviation, and has put it into practice for long. While working to secure sustainable, inclusive, lasting and fair economic growth through business activities, CNPC plays an important part in development-oriented poverty alleviation under the leadership of the Chinese government, and explores effective poverty alleviation models and paths. Since 1988, CNPC has invested a total of nearly RMB 7 billion aid funds, benefiting nearly 10 million people in 476 counties (cities) in 28 provinces (municipalities and autonomous regions) across China.

Poverty Alleviation through Industrial Development

For targeted poverty alleviation through industrial development, we endeavor to foster local businesses to create more job opportunities to local people and improve the local capability in independent development, thereby helping the poor earn more money and get rid of poverty. All the regions under CNPC’s poverty alleviation program passed the national special assessment and inspection, totally shaking off poverty.

"Internet + " for poverty alleviation and opening up the sales channels for Balikun Cantaloupe

CNPC and China Foundation for Poverty Alleviation jointly created the Sharpen Commune - Balikun Cantaloupe Project in order to make use of the advantages of the cantaloupe industry in Santanghu Town, Balikun, Xinjiang Uygur Autonomous Region. With the help of CNPC’s capital, technology and business philosophy, the cooperative organizations attracted local farmers to grow green, pollution-free, sweet and crisp cantaloupe, and through the “Internet + poverty alleviation” mode, selected e-commerce logistics platform to achieve online cantaloupe sales.

“Xiaobing Cooperative” as established by Yan Xiaobing joined the Balikun Cantaloupe Project. As of September 2020, “Xiaobing Cooperative” had attracted 110 farmers, the planting bases under it have reached 1,000 mu, and its aggregate sales of cantaloupe have reached RMB 6.6 million.

Poverty Alleviation through Medical Care

We strive to improve the medical conditions in poor areas through multiple measures, such as building/renovating township medical centers, making regular clinic visits, and training rural medical workers.

For targeted poverty alleviation through medical care, we provide medical workers. We are committed to boosting the talent pool and economic development in recipient regions, especially through improving labor skills and innovation-based entrepreneurship and business management capability.

Training for grassroots management and governance

We invested RMB 3 million in the “Tongzhou Health Poverty Alleviation Program” in partnership with the China Foundation for Poverty Alleviation and the Aiyou Foundation. Under the program, we donated RMB 2 million for critical illness relief for people aged 20-60 in Hongxing County in Jiangxi Province. We invested RMB 1.4 million for urban poor residents in Xishui County in Guizhou Province.

We invested RMB 1 million for municipal and autonomous regions. We invested RMB 5 million for municipal and autonomous regions.

Aided construction of industrial facilities

We invested RMB 60 million to build the pedestrian streets, parking lots, and mobile life-support equipment, in a drive to boost the development of local tourism industry and the employment for herdsmen.

Irrigation projects

From 2016 to 2020, we funded the water-saving irrigation projects in Naluo and Qinye counties of Xinjiang for 27,000 mu of arable land, nearly quadrupling the output of agricultural and sideline products per mu and benefiting 4,000 poverty-stricken people.

We insured 76,528 households registered as living under the poverty line in Xishui County in Guizhou Province.

We invested RMB 7.88 million in the construction of centralized PV power plant project in Hongxing County, Jiangxi Province. From commencement of grid-connected power generation to June 2020, the profits reached nearly RMB 1.6 million, and dividends distributed to 16 villages (farms) ceased RMB 1.14 million.

Photovoltaic poverty alleviation

We invested RMB 8.6 million to build the pedestrian streets, parking lots, and mobile life-support equipment, in a drive to boost the development of local tourism industry and the employment for herdsmen.

We trained 9,000 grassroots managers in cooperation with the Chinese Academy of Governance and the Academy of Rural Party Branch.

Training for innovation-based entrepreneurship and business management capability

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Faculty capacity building

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Labor skills training

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Supporting Education

Access to high-quality education is fundamental for improving the quality of life and achieving sustainable development. It is clear that education is one of the biggest drivers to sustainable development. We strive to carry out various activities and give young people equal opportunities for education to help them pursue their goals and boost their personal growth. Specifically, we set up scholarships, offer grant loans and subsidies to students from underprivileged families, improve teaching conditions in poor areas, and support scientific and cultural activities as well as relevant competitive activities. In 2020, we granted CNPC Scholarships of RMB 3.99 million to 635 excellent students.

In addition, we explore new models to support education, and call on the public to focus on and work together to achieve education equality. In cooperation with China Foundation for Poverty Alleviation (CFPA), Beijing Normal University Group and Tencent Foundation, we sponsored the Xuhang Program and the Teacher Training Program to help students from poor families complete their studies.

Promotion of Local Development

CNPC’s development is inseparable from the support and help of the governments, communities and the general public. While providing a continuous and stable energy supply for economic development, we insist on the principle of open cooperation for mutual benefit, expanding our joint-venture cooperation with state-owned capital, social capital and foreign capital in the upstream, midstream and downstream sectors. During the process of developing and running our projects, we help to nurture local suppliers and contractors, thereby creating jobs, driving the growth of related businesses, and giving back to local people.

CNPC’s outstanding JV projects in 2020

We actively and steadily promoted JV projects across the industry chain. Typically, we improved JV platforms for the segments of refining & chemical, marketing, and natural gas pipelines. We pushed for practical cooperation with private capital, financial capital, social capital, and large international companies in an all-round, multi-level and wide-ranging way, so as to give full play to the effect of capital accumulation and amplification.

Cultural Civilization

We encourage employees to participate in volunteer activities to help out people with difficulties so to advocate new trends in social civilization and contribute to the development of cultural civilization.

We encourage our employees to serve communities and participate in other volunteer activities. In 2020, we had 3,090 youth volunteer teams with 117,000 members.
CNPC’s “Hand in Hand” Platform for Public Welfare

We believe that each public welfare initiative will make a difference to the world. In 2016, together with the China Foundation for Poverty Alleviation, CNPC launched the “Hand in Hand” platform for funding public welfare innovation. The public welfare organizations, caring people and ordinary users are connected via the “Hand in Hand” app, helping the public realize the initiatives on public welfare.

Who We Help
We help the public realize their dreams for public welfare and promote the concept of “Public Welfare by All”.

What We Do
- Idea collection: We collect ideas on public welfare initiatives both online and offline and determine the promising and valuable ones after appraisal.
- Financial support: We donate special funds to China Foundation for Poverty Alleviation in support of innovative, operational and socially influential public welfare initiatives.

Our Achievements
We cooperate with Beijing Shijia Education Group and selective schools (e.g. the Experimental High School Attached to Beijing Normal University) to guide and train the primary and middle school students to design and propose their ideas for public welfare. As of 2020, we performed a total of 130 programs in primary and secondary schools, extending the concept of “Public Welfare by All” across the campuses.

We set up the “Charity Future · CNPC Fund” to encourage college students to follow closely social issues and seek innovative and effective solutions, in order to drive the social progress. As of 2020, this program attracted more than 1,000 associations of over 140 colleges/universities nationwide.

In the past five years, we collected a total of 3,919 public welfare ideas, of which 1,101 went online and 953 were funded. The projects we funded were sourced from 30 provinces (municipalities and autonomous regions), such as Beijing, Inner Mongolia, Gansu, Sichuan, Guizhou, Guangdong, Fujian and Yunnan. These projects involve various entities/groups, such as colleges/universities, primary and secondary schools, communities, non-governmental organizations, and industry associations, covering adolescent education, elderly care services, environmental protection, community development, and other aspects.

Social Benefits
- A lower threshold is adopted to allow the public welfare programs accessible to more people. As of December 2020, more than 310,000 users were registered on the platform, with its influence to over 10 million people.
- The public welfare organizations and the benefiting populations are closely connected and interacted via the platform. Thus, the allocation of public welfare resources is optimized to make the public welfare initiatives more efficient and more socially influential.

“In Search of China’s Van Gogh”
Autistic children, the children medically identified with mental disability, dubbed “Children of the Stars”, are locked away in their own world. In 2017, CNPC began to, via its “Hand in Hand” platform and in cooperation with the World of Art Brut Culture (WABC), implement the program - “In Search of China’s Van Gogh”, under which the autistic children are taught and guided for drawing, as a way to express their voices.

When initially operating the studio, we were overwhelmed by many problems. We almost decided to give up until we met CNPC and its “Hand in Hand”.

-----said Gao Hua, a sponsor of WABC.

Feedback
As a member of the photography group of Shijia Primary School, I am very happy that our photos successfully convey the love of rural migrant workers to their children left behind at home.

-----Yao Yuwei, a sponsor of the “Photography for Love” program.

Thanks to the support of CNPC’s “Hand in Hand” program, we can deliver courses to children in the Osteogenesis Imperfecta Ward every week. We’d like to work continuously with CNPC to present a wonderful world to the porcelain dolls in wards.

-----Sunshine Porcelain Dolls Counseling.

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Contributions to the Development of Overseas Communities

We respect the cultures and conventions of the host countries in which we operate, and we are committed to establishing long-term and stable cooperative relations with the host countries, along with striving to become an excellent corporate citizen in local communities. We incorporate our development into local socio-economic growth and create socio-economic value to jointly promote the development and prosperity of local communities.

<table>
<thead>
<tr>
<th>Contributions to the Development of Overseas Communities</th>
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<tbody>
<tr>
<td>Manage Our Impact in Local Communities</td>
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<tr>
<td>Potential Positive Impact</td>
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<td>Local Communities</td>
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<tr>
<td>Capacity Building for Local Businesses and Industries</td>
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<tr>
<td>Community Consultation and Participation</td>
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</tbody>
</table>

Enhancing Communication with Local Communities

We have set up environmental protection and community relations coordination departments in many overseas areas to promote cooperation with local governments, NGOs and community representatives. By holding conferences, issuing reports and paying visits, we strengthen communication and coordination and achieve a win-win situation in cooperation.

Manage Our Impact in Local Communities

We strive to make a positive impact on community development through carrying out responsible operations, which is not only translating into more employment opportunities, more tax contributions, and more business opportunities to local suppliers, but also reducing the environment and social impact of production and operations on local communities as well as safeguarding the human rights of community residents.
In 2020, we launched the program "Female Volunteers for Healthcare" in Rumaila, Iraq. A total of 43 female volunteers were selected and trained for hygiene and health knowledge and symptoms of related diseases, so that they could help the families in local communities understand how to live healthily. The volunteers visited nearly 1,000 homes every month, benefiting more than 4,000 residents.

Female Volunteers for Healthcare

In early 2020, some African countries were hit hard by the invasion of locusts. We donated funds, pesticides and necessary materials to South Sudan and Pakistan to help them fight the locusts.

In Peru, we actively coordinated local governments and communities in fighting against the pandemic, and also donated necessary protective equipment.

Promotion of Localization

We proactively promote localization and take the procurement of local products and local services as a priority in order to offer local contractors and service providers a chance to participate in the projects, promoting the development of local small and medium-sized enterprises and creating employment opportunities for local communities. In Kazakhstan, since 1997, we have invested US$ 30.1 billion in oil and gas development, contributed over US$ 48 billion in taxes, and provided US$ 400 million in social welfare funding.

Cultivation of Local Talents in Turkmenistan

In Turkmenistan, we actively cultivate local employees in respect of vocational skills through a variety of means, such as experience sharing by excellent internal employees and training by external experts. As of late 2020, we had trained more than 45,000 local employees, and promoted hundreds of local employees to middle-level managers. We adopt a recruitment policy prioritizing local residents, creating more than 22,000 job opportunities in Turkmenistan.

Tax Payments According to Law

We strictly comply with the laws and regulations in the countries where we operate, pay taxes to local governments according to law, and contribute to the development of local economies. In countries where the Extractive Industries Transparency Initiative (EITI) standard is implemented, such as Iraq and Mongolia, our local companies actively participate in the multi-stakeholder groups and publish information on our projects and tax payments to provide details that far exceed the minimum disclosure requirements prescribed by the EITI. We support and follow the Base Erosion and Profit Shifting (BEPS) initiative and the CIEC Tax Policy, and pledge to pay tax according to the law in areas where we operate and create value, in order to strive to achieve sustainable development and to contribute to socioeconomic development. In 2020, we paid a total of RMB 38.43 billion in taxes overseas.
Protecting Indigenous Rights

Before the construction of a project, we conduct assessments of the social and economic impact, such as the requirements of the indigenous people, human rights, cultural heritage and involuntary resettlement. We try our best to protect all the rights and interests of the indigenous people. We uphold standard practices in land compensation, and make compensation plans by referring to the opinions of the local governments, our partners, and the local villagers. Specifically, compensation is paid before land use, and the compensation information is released timely to ensure operational transparency.

Living Improvement for Aboriginals in Nenets Autonomous Okrug

The Nenets are aboriginal reindeer herders mostly inhabiting Siberia and migrating around the Arctic tundra. They live on nothing but reindeer meat, with bread as a rare food. While operating in Yamal, we strive to help local aboriginals improve their social and living standards and ecological environment.

Ecosystem conservation

We respect the natural environment and biodiversity in the Arctic. We use multiple techniques (e.g. pile foundations for structures) to protect the permafrost. We keep long-term monitoring of the discharge of waste water, sea ice and solid waste, according to the environmental monitoring plan. We try to protect the biodiversity in the work area. We have prepared the local biodiversity action plan according to the Equator Principles, specifying the protective measures for animals/plants and the ecosystem across the area. In partnership with the Arctic Council, we have launched the ‘Healthy Tundra’, a campaign to leverage the traditional knowledge and skills of indigenous residents to promote ecological restoration. Our contribution to improving the ecosystem in the Arctic region has been recognized by the international community.

Financial assistance

Every year, the Nenets migrate with their reindeers across the Yamal Peninsula – to the northemmost in summer and the southermmost in winter, two round-trips thousands of kilometers apart. In 2020, after negotiations with the aboriginals, we built 3 crossing points for reindeer migration in our project area. A points more than originally planned, greatly facilitating the long-distance reindeer migration. In addition, we transported aboriginals for 10 times via helicopters, and provided 10 tons of gasoline, 30 tons of diesel, and 280 cubic meters of wood fuel to help improve local living conditions.

Social development plan

We assist the Nenets Autonomous Okrug in developing social development plan for aboriginals, in order to improve local employment, early childhood education and medical care.

Outlook for 2021

In 2021, the world economy will pick up as the COVID-19 vaccine rollout ramps up and relatively loose fiscal and monetary policies provide some support for economic recovery. China will witness normal economic performance along with the regular epidemic prevention and control and normal macroeconomic policies. Despite the complex and volatile domestic and international environment, we will make progress while maintaining stability, commit ourselves to the strategy of innovation, resources, market, internationalization, and green and low-carbon development, and keep enhancing our sustainability, so as to open up new prospects for the building of a world-class integrated international energy company and contribute to the global energy transition, China’s energy revolution and China’s aim to peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060.

We will unswervingly deepen the reform according to the three-year action plan. We will translate our achievements in deepening reform into strengths in professional development and market-oriented operation. We will optimize and improve six major systems of corporate governance, and continue to enhance our governance efficiency.

We will foster development advantages and consolidate our resource base. We will make efforts to maintain steady growth in domestic crude oil production and rapid growth in natural gas production and to push for the clean, low-carbon transition. We will strengthen integrated and coordinated development of upstream and downstream sectors, domestic and overseas operations, and production, refining, marketing, storage and trade, so as to create new drivers for the Company’s value enhancement and sustainable development and the Company’s ability to ensure national energy security.

We will press ahead with the Three-year Action Plan for Special Ratification of Work Safety, improve the QHSE management system, and promote energy efficiency as the resource of first priority under the green and low-carbon development strategy. We will develop a timetable for peak carbon emissions, actively explore technologies and measures for carbon neutrality, and promote pollution prevention and ecological protection.

We will take efficient control measures to improve the quality of products, projects and services. We will strive to play a leading role in delivering clean energy and promoting ecological progress, and steadily improve our safety and environmental performance.

Being “people-centered”, we will actively rely on talents to make the Company strong. We will protect the legitimate rights and interests of employees, build effective platforms for their development, improve their working and living conditions, and care about their physical and psychological health. We will ensure that the corporate development offer greater benefits to all the employees in a fair way.

We will remain committed to public welfare through educational donations, disaster relief and staff voluntary activities. Through project development and construction, we will promote local employment, boost local economic and social development, and contribute to the full implementation of the rural strategy as a petroleum company.

The year 2021 marks the start of China’s “14th Five-Year Plan”. In the new stage, we will adopt the new development philosophy and integrate into the new development paradigm. Also, we will strive for new and steady horizons for self-reliance and self-improvement in science and technology, higher business performance, green and low-carbon transition, and corporate governance. We will step up efforts to build a world-class integrated international energy company, so as to make fresh contributions to China’s national energy security and economic and social development.
## Performance Data

<table>
<thead>
<tr>
<th>Performance indicators</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Finances and operations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total assets (RMB 100 million)</td>
<td>40698</td>
<td>40987</td>
<td>41325</td>
<td>42357</td>
<td>40887</td>
</tr>
<tr>
<td>Owner's equity attributable to parent company (RMB 100 million)</td>
<td>20980</td>
<td>20426</td>
<td>19993</td>
<td>19696</td>
<td>19786</td>
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<tr>
<td>Operating revenues (RMB 100 million)</td>
<td>18719</td>
<td>23403</td>
<td>27190</td>
<td>27714</td>
<td>26671</td>
</tr>
<tr>
<td>Taxes and fees payable (RMB 100 million)</td>
<td>3407</td>
<td>3774</td>
<td>4212</td>
<td>4045</td>
<td>3158</td>
</tr>
<tr>
<td>Newly-added proved oil reserves (10,000 tons)</td>
<td>7881</td>
<td>6007</td>
<td>7076</td>
<td>7720</td>
<td>6670</td>
</tr>
<tr>
<td>Newly-added proved gas reserves (100 million cubic meters)</td>
<td>1351</td>
<td>949</td>
<td>1293</td>
<td>1258</td>
<td>1409</td>
</tr>
<tr>
<td>Crude oil production (including overseas equity output) (10,000 tons)</td>
<td>15298</td>
<td>17133.8</td>
<td>17686.6</td>
<td>18102.7</td>
<td>17864.2</td>
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<tr>
<td>Natural gas production (including overseas equity output) (100 million cubic meters)</td>
<td>1213</td>
<td>1287.3</td>
<td>1380.2</td>
<td>1503</td>
<td>1603.5</td>
</tr>
<tr>
<td>Crude oils processed (including overseas crude oils processed) (10,000 tons)</td>
<td>19167</td>
<td>19917</td>
<td>20736</td>
<td>20796.7</td>
<td>19182.7</td>
</tr>
<tr>
<td>Output of refined products (including overseas output) (10,000 tons)</td>
<td>11352</td>
<td>13572</td>
<td>14482</td>
<td>14643.7</td>
<td>13067.4</td>
</tr>
<tr>
<td>Ethylene output (10,000 tons)</td>
<td>559</td>
<td>576</td>
<td>557</td>
<td>586.3</td>
<td>634.5</td>
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<tr>
<td>Lubricant output (10,000 tons)</td>
<td>116</td>
<td>164</td>
<td>160</td>
<td>163</td>
<td>157.5</td>
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<tr>
<td>Sales of refined oil products (domestic sales) (10,000 tons)</td>
<td>12133.8</td>
<td>17686.6</td>
<td>18102.7</td>
<td>17864.2</td>
<td></td>
</tr>
<tr>
<td>Number of service stations (domestic)</td>
<td>20895</td>
<td>21399</td>
<td>21776</td>
<td>22385</td>
<td>22812</td>
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<tr>
<td><strong>Environment</strong></td>
<td></td>
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<tr>
<td>COD emissions (10,000 tons)</td>
<td>2.87</td>
<td>2.85</td>
<td>2.63</td>
<td>2.48</td>
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<td>NH3-N emissions (10,000 tons)</td>
<td>1.15</td>
<td>1.08</td>
<td>1.01</td>
<td>0.87</td>
<td>0.83</td>
</tr>
<tr>
<td>SO2 emissions (10,000 tons)</td>
<td>12.75</td>
<td>12.36</td>
<td>11.42</td>
<td>10.45</td>
<td>9.69</td>
</tr>
<tr>
<td>NOx emissions (10,000 tons)</td>
<td>13.21</td>
<td>11.94</td>
<td>11.00</td>
<td>10.25</td>
<td>9.59</td>
</tr>
<tr>
<td>Energy saved (10,000 tons of TCE)</td>
<td>95</td>
<td>88</td>
<td>85</td>
<td>82</td>
<td>79</td>
</tr>
<tr>
<td>Water conserved (10,000 cubic meters)</td>
<td>1339</td>
<td>1241</td>
<td>1213</td>
<td>1084</td>
<td>1033</td>
</tr>
<tr>
<td>Land saved (hectares)</td>
<td>1135</td>
<td>1180</td>
<td>1253</td>
<td>1247</td>
<td>1190</td>
</tr>
<tr>
<td><strong>Staff</strong></td>
<td></td>
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<tr>
<td>Number of employees in service (10,000 employees)</td>
<td>157.70</td>
<td>152.26</td>
<td>144.84</td>
<td>141.95</td>
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<tr>
<td>Percentage of female staff (%)</td>
<td>34.2</td>
<td>33.9</td>
<td>33.3</td>
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<tr>
<td>Percentage of ethnic minority employees (%)</td>
<td>6.2</td>
<td>6.2</td>
<td>6.3</td>
<td>6.3</td>
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<tr>
<td>Percentage of local employees (%)</td>
<td>82</td>
<td>83</td>
<td>84.4</td>
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<tr>
<td>Total training time (10,000 hours)</td>
<td>1298</td>
<td>17133.8</td>
<td>18102.7</td>
<td>17864.2</td>
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<tr>
<td>Number of employees trained (10,000 employees)</td>
<td>62140.6</td>
<td>108572</td>
<td>72091.6</td>
<td>85432</td>
<td>71795</td>
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<tr>
<td><strong>Public welfare</strong></td>
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<tr>
<td>Total contribution (RMB 10,000)</td>
<td>62140.6</td>
<td>108572</td>
<td>72091.6</td>
<td>85432</td>
<td>71795</td>
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<tr>
<td>Percentage alleviation (RMB 10,000)</td>
<td>19764.4</td>
<td>21817</td>
<td>23291</td>
<td>24388</td>
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<tr>
<td>Disaster relief (RMB 10,000)</td>
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<td>7975</td>
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<td>4421</td>
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<td>Education (RMB 10,000)</td>
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<td>10001.9</td>
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<td>8269</td>
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<td>Charity donation (RMB 10,000)</td>
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<td>46611.8</td>
<td>37806.6</td>
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<td>Environmental charity (RMB 10,000)</td>
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<td>22076.3</td>
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<td>4421</td>
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<td>Number of material suppliers</td>
<td>24409</td>
<td>25208</td>
<td>25420</td>
<td>23623</td>
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<td>Purchase expenditure (RMB 100 million)</td>
<td>11.44</td>
<td>15.17</td>
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<td>21.80</td>
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<td>Safe Operation</td>
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Approach to Reporting

**Definition process of the contents**

The contents in this report were selected and disclosed based on their substantiality, integrity and balance principle, and taking into account the concerns of stakeholders and the Company’s great influence on the society. They exert substantial impact on the Company’s sustainable development.

1. The Company pays close attention to the views of its stakeholders, and collects their comments through community visits, periodical reports, field study and online communications. It makes suggestions on the topics of the report by taking into account stakeholders’ major concerns.
2. We assess the Company’s sustainable development strategy and cover major social, economic and environmental events related to our strategies, risks and opportunities.
3. We refer to UN SDGs and the social responsibility initiatives and standards proposed by NGOs for topic selection. These include ISO26000 (Guidance on Social Responsibility).
4. Topics are selected based on the comprehensive assessment of stakeholders’ concerns and their impact on the Company’s strategies. The time span and the scope of impact for each specific topic are clearly defined to ensure the accuracy of the information disclosed.

**Content**

- Physical and Psychological Health: SHS-1, SHS-2
- Caring for Employees: 413-1

**Social Contribution in Promoting People's Livelihood**

- Targeted Poverty Alleviation: SOC-9
- Special Report: CNPC's Contributions to Poverty Alleviation: SOC-9
- Supporting Education: SOC-9
- Promotion of Local Development: SOC-9
- Cultural Civilization: SOC-9
- Overseas Communities: SHS-1, SHS-2, SOC-4, SOC-6, SOC-9, SOC-10, SOC-11, SOC-14, GOV-4
- Outlook for 2021: 202-1, 202-3, 202-4, 411-1, 413-1

**Performance Data**

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