

Environment and Society

The company is committed to the principle of "people-oriented, quality foremost, safety first, environment prioritized" to achieve "zero defect, zero injury and zero pollution". We pay attention to people's livelihood and social progress, and strive for harmonious relationship between energy and the environment, as well as enterprise and the community.



At CNPC, we put the provision of clean and efficient energy, environmental protection, energy conservation and emission reduction as well as joint development with the community as an important basis for our sustainability strategy. The company continues to promote safe, green and thrifty operations, press ahead with the construction of ecological civilization and develop a resource-saving and environmentally-friendly enterprise. As a good corporate citizen, we actively support community development where we operate in order to promote local economic and social development.

Safe Operation

We actively promote the building of a long-acting safety system and comprehensively enhance our work safety management. In 2019, the company maintained a safe momentum in production.

Management System and Performance Assessment

In 2019, we launched a range of rules and procedures, including *Safe Production Accountability Report Rules for Corporate Executives and Measures for Safety Supervision and Management of Leasing Business*. We amended the head office's *Emergency Response Plan* together with a number of supporting plans as part of our ongoing top-level design. We improved reviews of the HSE management system, and put more efforts into rectifying problems found in these reviews. Competence on HSE performance was assessed across the board for new recruitments as well as key job roles. We revised the detailed regulations based on the assessment of safety performance, and strengthened performance evaluation and accountability for accidents.

Safety Risk Management

The company implemented a dual-prevention mechanism covering risk prevention and control as well as hazard identification and treatment for production safety, and improved the risk prevention and control classification system, so as to eliminate safety risks and potential hazards before incidents happen. In 2019, we continued to push ahead with supervision on classified risks in our subsidiaries. Early warning and risk control in the key areas were stepped up and a series of safety operation campaigns were launched to prevent risks, eliminate hazards and contain accidents. We formulated guidelines for risk prevention and control in oil and gas field operations as well as refining & petrochemicals operations, and guided the subsidiaries to formulate their risk prevention and control plans. Meanwhile, we promoted standard HSE management practices across our production sites.

Hazard Control

We attach equal importance to both prevention and control of hazards, build a long-acting mechanism for hazard control, so as to ensure all hazards are timely and effectively treated, and the fundamental safety level enhanced. Inspections targeting hazards in oil and gas pipelines and volatile organic compound (VOCs) etc. were conducted in 2019. Safety management was stepped up for oil and gas pipelines to ensure a significant improvement in inherent safety.



An on-site oilfield safety inspection by safety engineers

Hazardous Chemicals Management

We exercised full-process management on hazardous chemicals production, storage and transportation. In 2019, the company implemented special campaigns to tackle safety hazards associated with hazardous chemicals under the national *Guidelines on Detection and Control of Safety Hazards for Hazardous Chemical Producers*. We also push ahead with the relocation and transformation of hazardous chemicals producers in densely populated areas, improve our risk monitoring and early warning platform for hazardous chemicals, and keep bolstering the ability to monitor the safety of hazardous chemicals.

Supply Chain Safety

We include suppliers and contractors into our safety management, and have an all-process management from access, selection, training, use, to evaluation, so as to prevent and reduce accidents caused by suppliers and contractors. In 2019, we took a stricter approach to contractor supervision focusing on access control and strengthening safety training program for key positions in a bid to reduce safety risks in connection with contractor operations on an ongoing basis.

Offshore Oil Safety Management

We keep beefing up offshore oil safety management. Safety inspections on offshore oil reserves and production capacity expansion were conducted in 2019. Risk control measures were stepped up for the key procedures of offshore crane operation and emergency plans were implemented to protect the safety of offshore oil production systems against storm surges caused by super typhoons such as Lekima.

Overseas Security Management

The company constantly reinforces the operation of social security management system, strengthen social security risk prevention and control, and enhance emergency response capabilities. In 2019, we properly responded to political turmoil and social unrest in a number of countries. There were no fatalities in our overseas projects.

Environmental Protection

We make great efforts to reduce adverse effects on environment and climate. By improving resource utilization efficiency, implementing the Clean Air Act, and promoting energy conservation and emission reduction, we strive to achieve environmentally-friendly and resource-saving operations and vigorously advocate the construction of ecological civilization, in order to achieve harmony between energy and the environment. We were named the 2016-2018 "Outstanding Contribution to Energy Conservation and Emission Reduction" by State-owned Assets Supervision and Administration Commission of the State Council in 2019.

Environmental Risk Prevention and Control

We carry out environmental risk identification and assessment, and implement a risk prevention and control management model focusing on forecasting, pre-warning and monitoring. We have established a sound risk management mechanism featuring "tiered management and

Beefing up environmental protection management

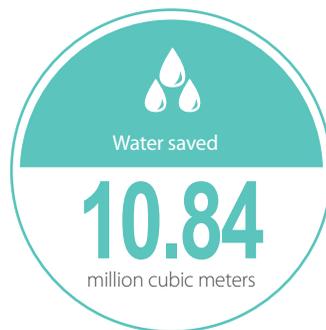
We spent approx. RMB 9.9 billion on environmental protection management in 2019 with a focus on a series of special management activities such as leak-proof underground storage tanks at service stations, integrated VOCs treatment, revamping of wastewater treatment plants, oily sludge treatment and environmental risk management, etc.

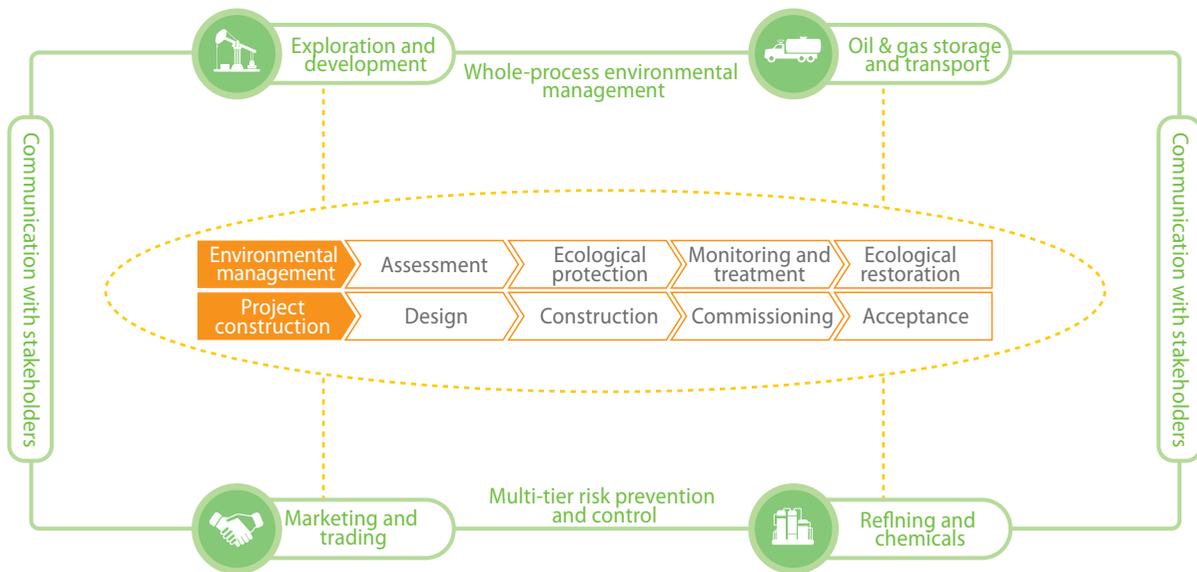
hierarchic prevention and control", in order to ensure overall control over environmental risks. In 2019, no major environmental accidents were reported.

Sustainable Use of Resources

We attach great importance to the protection and rational utilization of resources. We have been striving to reduce the consumption of fossil fuels and enhance energy efficiency by reducing energy consumption intensity. Compared with 2010, the proportion of natural gas consumption in our total energy consumption in 2019 was increased by 7.77 percentage points, while the proportion of raw coal consumption in our total energy consumption was decreased by 7.87 percentage points. We endeavor to improve water utilization efficiency and realize sustainable use of water throughout the process of our production and operation activities. Through innovation in land-saving techniques and management, we make careful and efficient use of land during production, make good use of land in various ways, proactively reclaim land, carry out geological environment treatment and recovery in mining areas, and enhance land use efficiency. In 2019, the company reduced energy consumption by 0.82 million tons of standard coal, water consumption by 10.84 million cubic meters, and land consumption by 1,247 hectares.

In 2019





Eco-environment management in full life cycle across the industry chain

Control of Wastes and Pollutants Discharge

We strictly monitor and control discharge of waste and pollutants in the production process, strengthen waste management, and reduce discharge of pollutants in the air, land and water. We actively promote collection measures and recycling technologies for drilling wastes, and clean operation technologies at our oil and gas fields, which has significantly reduced wastes and pollutants.

Conservation of Biodiversity and Natural Habitats

We are committed to reducing the potential impact of production and operation on the ecological environment and biodiversity. We endeavor to avoid environmental impact, and restore the environment to its original state in case of any adverse impact from our production. 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 do our utmost to reduce the occupation of cultivated land, protect water and land, and restore vegetation and work hard to restore the ecological environment in the working areas and protect biodiversity.

Climate Change

We support the *Paris Agreement* adopted by the 2015 United Nations Climate Change Conference, and embrace the goal of limiting global warming to less than 2°C by the end of this century. To this end, we actively respond to climate change, devote ourselves to low-carbon development, and share the practice of greenhouse gas emission control with industry peers and all sectors of society.

Carbon Emission Management

We pay close attention to greenhouse gas emissions and include combating climate change in our development plan. In 2019, the company announced its *Green Development Action Plan 2.0*, set up a task force for carbon emission management, improved carbon emission control system and played an active role in the collaborative effort of the global oil and gas industry to combat climate change.

Our Role in Oil & Gas Climate Initiative (OGCI) Decarbonization Actions

As the only Chinese member of the Oil and Gas Climate Initiative (OGCI), CNPC is deeply involved in international cooperation to address climate change, and coordinates with other OGCI members in response to climate change and low carbon transition of the oil and gas industry. In 2019, the CNPC-proposed Xinjiang CCUS Hub was selected by OGCI as one of the five regional centers around the world under the *Carbon Capture, Utilization and Storage (CCUS) KickStarter Initiative*, which has aroused international attention.

Carbon Emission Reduction During Production

We pay high attention to optimizing our own energy consumption structure and to reducing carbon emissions and carbon footprint during production and operation. In condition-permitting areas like Huabei Oilfield and Tarim Oilfield, we use renewable energies such as geothermal energy and solar energy needed for production to reduce carbon emissions during production.

Market-based Mechanism for Carbon Saving

We actively participate 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 saving and emission reduction projects developed by TCE can reduce energy consumption by more than 200,000 tons of standard coal annually, equivalent to over 500,000 tons of carbon dioxide in emission reduction. All CNPC's subsidiary companies engaged in the China's emissions trading system fulfilled their end of bargain in 2019.

Forestry Carbon Sink

We support and partake actively in the construction of carbon sink forest and forestation activities in China. The company established the China Green Carbon Foundation together with the State Forestry Administration for ongoing efforts in that regard. Meanwhile, we set up the Forestation Committee to ensure continuous forestation in our production areas and living quarters. As of 2019, CNPC's green coverage reached 286 million square meters. The company's forestation activities attracted 499,000 participants to plant 2.027 million trees throughout the year.



Forestation in production areas and living quarters

Social Responsibility

We remain committed to combining our business growth with local sustainable development, attaching importance to people's livelihood and social progress, sharing development opportunities and resources value with the local community. In 2019, we continued to carry out targeted poverty alleviation and aid programs, and participated in community building through various ways, including education and healthcare, etc.

Targeted Poverty Alleviation

We respond actively to the initiatives of the United Nation's *2030 Agenda for Sustainable Development* and to the Chinese government's policies on poverty alleviation, with a special focus on 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 take targeted measures to help them develop the local economy on their own.

In 2019, we continued efforts in targeted poverty alleviation and invested RMB 152 million in 70 projects, including infrastructure reconstruction, education and training, healthcare, as well as industrial collaboration,

CNPC recognized as Responsible Enterprise of Year 2019

CNPC was named "Responsible Enterprise of Year 2019" at the 15th China • International CSR Forum jointly hosted by China News Service and China News Weekly.

in 13 counties and districts from seven provinces (municipalities and autonomous regions) of China, namely Xinjiang, Tibet, Qinghai, Chongqing, Henan, Jiangxi and Guizhou.

Developing tourism for poverty alleviation in rural areas

CNPC has been implementing the Developing Tourism for Poverty Alleviation Demonstration Program in three poverty-stricken counties since 2017, i.e. Xishui in Guizhou as well as Taiqian and Fanxian in Henan. By exploring the local tourist resources and adopting the mode of villager's cooperative, CNPC invested in featured accommodation to boost the tertiary industry focusing on rural tourism, in a bid to create an industry cluster including farming, processing, tourism, cultural & creative products making, and vacation resorts etc.

In 2019, the program saw two projects becoming operational in Henan, which bolstered local economy greatly and improved the lives of villagers:

- Based on protection-oriented planning, idle properties in villages are transformed into comfy accommodation to retain the pastoral style as much as possible
- Rural infrastructure and living conditions of the villagers were improved
- With a tourist-friendly environment, a great choice of tourism products was available, which facilitated the marketing of local agricultural products
- In this process, villagers received skill training, which improved the overall quality of rural population and the level of urbanization
- Rural tourism is a platform for giving play the local cultural and natural resources and achieving harmony and sustainability in rural areas



Well-trained villagers started their new jobs locally as housekeepers



The Safflower Industrial Park invested by CNPC in Qapqal County, Yili, Xinjiang

Supporting Education

We carry out various activities in helping young people access equal opportunities for education. Specifically, we set up scholarships, offer grants and subsidies to students from underprivileged families, improve teaching conditions for impoverished regions, and support scientific and cultural activities as well as relevant competition events. In 2019, CNPC Scholarships totaled RMB 3.99 million to 635 students.

In addition, we explore new models to support education, and call on the public to pay attention and work together to achieve education equality. In cooperation with China Foundation for Poverty Alleviation (CFPA), Beijing Normal University Education Group and Tencent Foundation, the Xuhang Scholarship Program and the Teacher Training Program effectively helped more students from poverty-stricken areas to realize their dreams for education.

Promoting Local Development

We adhere to the principle of open-up and cooperation for mutual benefit, and keep expanding our joint-venture cooperation with local 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 related business growth, and giving back to local people.

Contributions to the Development of Overseas Communities

We respect the cultures and conventions of the host countries, and are committed to establishing long-term and stable cooperative relations. As a good corporate citizen, we incorporate our development into local socio-economic growth and actively create socio-economic value to jointly promote the development and prosperity of local communities.

Enhancing Communication with Local Communities

We set up environmental protection and community relations coordinating bodies in many overseas areas to promote communication with local governments, NGOs and community representatives, with whom we have strengthened communication and coordination by holding conferences, issuing reports and paying visits.

Managing Community Impact

We exert a positive influence in community development through responsible operations, which is not only reflected in job creation, tax contribution, and business opportunities for local suppliers, but also in reducing the impact from production and operation activities on community environment and society to protect rights and interests of community residents.

Participating in Community Welfare

We take an active role to help improve the living conditions of local people to achieve harmonious and mutual development through donating in education, healthcare and other public welfare programs. We launched in 2019 a wide range of public welfare activities in the countries where we operate, such as Iraq, Chad, Kazakhstan, Ecuador, Peru, and Canada. We supply clean energy, build hospitals, schools, roads, and water wells, make cash and in-kind donations, provide health check-ups and site consultation on medical care, as well as support education, culture and healthcare in the local communities.

Promoting Localization

We strictly comply with laws and regulations in the countries where we operate, and have made remarkable contributions to local economic development. We try our best to protect the legitimate rights and interests of the indigenous people. Before launching a project, we conduct assessments of its social and economic impact, taking into consideration of the needs of the indigenous people, rights and benefits, cultural heritage, and involuntary resettlement. We place priority on purchasing local products and services, and create opportunities for local contractors and service companies to participate in our projects. We also support the development of local SMEs and business start-ups in local communities and create job opportunities. In Iraq, CNPC has created over USD 400 million worth of business opportunities and more than 20,000 jobs.

Growing together with the local community to facilitate urbanization

The town of Koudalwa was originally a small village with fewer than 500 people near the Ronier Oilfield in Chad. There was a lack of basic amenities, roads and schools in the village, and water supply facilities were seriously inadequate. During the hot dry season, villagers had to move from place to place to seek water sources and this unsteady lifestyle made it difficult for them to receive education and improve living conditions.

We visited the local community to see what could be done to help the villagers. A total of 49 water wells were dug in Koudalwa to provide access to clean water, benefiting 39 surrounding villages and 25,000 people in the adjacent communities. We also built for the Koudalwa village a main road and a 6-grade public primary school enough for accommodating 300 students, which have met the transportation and education needs of local residents. The development of the oilfield boosted employment. As of the end of 2019, it created new jobs for 969 people.

Over these years, people from other villages and towns gradually gathered in the village of Koudalwa to drive its population up above 10,000, which has created an effect of urbanization and gained high appreciation by the local people.

