



## Environment and Society

The Company has been committed to the principle of “people-oriented, quality-utmost, safety-first, environment-prioritized” to achieve the goal of “zero accident, zero injury, zero pollution and zero defect” . 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.

## Safe Operation

At CNPC, we promote the building of a long-acting safety system and strengthen safety risk mitigation to enhance our workplace safety management. In 2022, the Company maintained safe and stable production.

### Management system

The Measures for Supervision and Management of Workplace Safety and the Measures for Supervision and Management of Key Hazard Sources and Hazardous Chemicals were issued to further improve the workplace safety management system.

### Risk management

The preventive mechanism for risk prevention and control and hazard identification and treatment was fully implemented and the classification system for risk prevention and control was further improved to eliminate safety risks and potential hazards. Targeted supervision measures based on risk classification were implemented in subsidiaries and a proactive approach to hazard identification was adopted to improve risk prevention.

### Emergency response capabilities

The framework for emergency preparedness was taking shape. The emergency action plans regarding public health and capital market were improved and the revision and filing of the headquarters' emergency plan made progress.

### Supply chain safety management

The selection of strategic contractors was strengthened. Trainings for key contractor employees were provided and the "zero tolerance" policy against incompetent contractors was implemented.

### Overseas security risk management

The social security management system was further improved, measures for prevention and control of social security risks were heightened and the emergency response capabilities were enhanced.

## Environmental Protection

At CNPC, we make great efforts to reduce adverse effects on environment and climate. By improving resource utilization, pollution control, energy conservation and emission reduction, green production and lean production, we strive to achieve harmony between energy production and the environment.

### In-depth pollution control

Actions were taken to protect our blue skies, clear waters, and clean lands. 31 measures in 8 areas were implemented to promote green

and low-carbon development, maintain ecological security, develop low-carbon and eco-friendly industries, and build a modern environmental governance system.

### Environmental protection management

The guidelines on the permit for discharges were issued and the guidelines on environmental protection in construction projects were amended to ensure environmental compliance.

### Environmental hazard management and risk control

Environmental hazards were identified and addressed on an ongoing basis, and overseas projects with operatorship were included in this process for the first time; environmental risks were identified and assessed. An environmental surveillance and early warning system was put in place. The three-tiered system of prevention and control facilities continued to improve.

### Environment protection in key river basins

Efforts were heightened to protect the ecological environment in the Yellow River Basin and the Yangtze River Economic Belt, and strengthen coordination between key projects. 100 pollution control projects were completed in the Yellow River Basin and the Yangtze River Economic Belt to prevent environmental risks in these key basins.

### Management of key pollutants

emissions of chemical oxygen demand, ammonia nitrogen, nitrogen oxides, and volatile organic compounds (in refining and chemicals operations) were reduced by 8.5%, 27.0%, 7.1% and 3.5% respectively year on year.

### Sustainable use of resources

Great importance was attached to the protection and rational utilization of resources to minimize resource consumption. We reduced energy consumption by 0.74 million tons of standard coal, water consumption by 9.23 million cubic meters throughout the year.

### Conservation of Biodiversity

A holistic approach centered on conservation and natural restoration was adopted. Engaging actively in biodiversity governance, the Company fully integrated biodiversity conservation into its business operations. In 2022, no events of damage to biodiversity were reported.



Demoiselle Cranes settle down in Changqing Oilfield

## Climate Change

Actions were taken in line with the Paris Agreement and the Chinese government’s goals for carbon peak and carbon neutrality. Under the three-step approach, i.e. “clean alternatives, strategic replacement and green development”, the Action Plan 3.0 for Green and Low-carbon Development was formulated to introduce four measures: carbon reduction, carbon utilization, alternative fuels, and carbon sequestration. Three action plans, i.e. Green Business Leader Initiative, Clean and Low-carbon Energy Contributor Initiative, and Circular Carbon Economy Pioneer Initiative, along with ten energy-saving and carbon reduction projects were developed to facilitate the green and low-carbon transition.

Four measures for low-carbon development

Carbon reduction

Control the sources of carbon emissions, promote energy-saving practices, improve energy efficiency and energy utilization, reduce energy consumption, and bolster the natural gas business.

Carbon utilization

Improve carbon utilization, increase the use of carbon dioxide in the chemical industry and foster relevant industries.

Carbon offsetting

Replace the traditional fossil energy, promote the replacement of traditional heating used in oil and gas production with geothermal and solar thermal heating, promote the replacement of coal-fired electricity generation with clean electricity, accelerate the production and large-scale application of hydrogen energy, increase the use of “green power”, and continue to promote electrification.

Carbon sequestration

Explore and improve the economically feasible technological pathways for carbon capture and storage, deploy CO<sub>2</sub> displacement and carbon storage on a large scale, expand “zero-carbon” and “carbon-negative” industries, and enhance the carbon sequestration capacity of the ecosystem.

## Carbon Emission Management

The management system for carbon emissions was further improved in 2022 and a series of measures to reduce emissions and carbon intensity were launched. The Company was in charge of formulating China’s Action Plan for Methane Emission Control and overseeing the pilot project of the Ministry of Ecology and Environment for methane monitoring. Meanwhile, the Company continued to promote cooperation under the framework of China Oil and Gas Methane Alliance and leveraged its industry-leading expertise and influence in reducing greenhouse gas emissions to implement the Action Plan for Methane Emission Control and achieve a year-on-year reduction in methane emissions intensity.

**The Company supports and participates in a number of reduction and control plans and initiatives for GHG emissions.**

- *The Paris Agreement*
- *United Nations Framework Convention on Climate Change*
- *China’s National Climate Change Program*
- *Action Plan for Carbon Dioxide Peaking Before 2030*
- *China Technology Strategic Alliance for CO<sub>2</sub> Capture, Utilization and Storage Technology Innovation (CTSA-CCUS)*
- *Oil & Gas Climate Initiative (OGCI)*
- *China Oil and Gas Methane Alliance*
- *China Petroleum and Chemical Industry Carbon Peak and Carbon Neutrality Pledge*
- *Aiming for Zero Methane Emissions Initiative*

### Actively Participate in International Cooperation

As the only Chinese member of OGCI, the Company is involved in international cooperation actively to address climate change. In accordance with the proposal of CNPC OGCI working group, the studies on the electrification roadmap for downstream sectors and the methodological research on indirect greenhouse gas emissions in various upstream and downstream activities were carried out together with other member companies. The Company was fully involved in the research of the Paris Agreement mechanisms, joined the ISO TC265 working group on CCUS industry chain, participated in the formulation of international CCUS standards, and pushed ahead with Daqing, Changqing and Northwest CCUS Industry Promotion Centers under the framework of OGCI. In March 2022, the Company's Chairman Dai Houliang signed the Aiming for Zero Methane Emissions Initiative to encourage full engagement of oil and gas companies and a systematic approach to methane emission reduction.

### Carbon Emission Reduction during Production

The Company endeavors to minimize the use of fossil fuels, accelerate the shift towards cleaner alternatives and reduce energy intensity. In 2022, The Company's first chemical project using green electricity, a 1.2 Mt/a ethylene plant as part of CNPC Jilin Petrochemical's Transformation and Upgrading Project, started construction.

### Market-based Mechanism for Carbon Reduction

The Company played an active role in building China's National Carbon Market. It was one of the first major companies to achieve timely compliance within the first compliance period of the National Carbon

Market. In 2022, the Company achieved full compliance with its annual carbon allowance.

### Forestry Carbon Sink

The Company actively engages in building forestry carbon sinks to promote carbon neutrality through carbon compensation. In 2022, the Company's participation in voluntary tree planting reached 700,000 person-times, planting 1.955 million trees and increasing the green space to a total area of 314 million square meters. The Ma'anshan Ecological Governance Demonstration Zone and carbon neutral forests at Daqing Oilfield were completed. The total area of forestry carbon sinks reached 11,850 mu in 2022. Two CNPC subsidiaries received the National Greening Award for organizations and two CNPC employees received the National Greening Award.



### “Planting Trees for Carbon Neutrality” Campaign

On March 10, 2022, the “Planting Trees for Carbon Neutrality” campaign was launched by CNPC in cooperation with China Green Foundation on yiwuzhishu.cn, the fundraising platform of China Green Foundation.

The purpose of the campaign is to raise funds from CNPC employees and the general public for voluntary tree planting activities and carbon sink forests. This campaign aims to raise RMB 100 million within five years to support afforestation a total area of 15,000 mu. As of the end of 2022, the campaign has received RMB17,889,800 from 559,200 participants. Tree planting for an area of 3,550 mu is under way.



Green development of Zhejiang Oilfield

## Social Responsibility

At CNPC, we maintain a strong commitment to aligning our business growth with the sustainable development of the local communities where we operate, with a focus on bolstering people's livelihood and social progress, reaching out to the local communities in various forms, and promoting harmonious socio-economic development of local communities.



### “Come on! Baby” health campaign for kids from rural low-income families

On September 2, 2022, the “Come on! Baby” health campaign was launched in Beijing, jointly initiated by CNPC, the China Foundation for Rural Development (CFPA), and the Ant Foundation.

Focused on kids up to 14 years old from underprivileged rural families, the “Come on! Baby” campaign aims to improve children’s health in underdeveloped areas by providing comprehensive coverage for hospitalization, certain diseases, accidents etc. to protect low-income rural families from poverty caused by diseases and accidents of children.

The campaign represents an innovative form of cooperation among SOEs, social organizations and online platforms, bringing together the brand reputation of SOEs, the expertise of social organizations and the influence of online platforms to encourage public engagement, maximize impact and benefit more families in underdeveloped areas.

### Rural Revitalization

In response to the United Nations’ 2030 Agenda for Sustainable Development and the Chinese government’s guidance on promoting rural revitalization, the Company aligns its resources with local needs and conditions in the assisted areas to facilitate their endogenous development, consolidate poverty alleviation achievements, and promote rural development in a solid and orderly way. In 2022, the Company earmarked RMB 666 million in rural revitalization and public welfare, implemented 1,080 assistance projects.

## CNPC Rural Revitalization efforts in 2022

### Vitalization of industries

- Food security
- Agro-industry chain to enrich the people
- Rural tourism
- Job creation for assisted areas

### Training

- CNPC Rural Development Lecture
- Training programs for oil & gas jobs

### Cultural heritage

- Making the most of local cultural heritage
- Rural cultural-ethical advancement

### Ecological conservation

- Improvement in living environment
- Green infrastructure
- Ecological potential in rural areas
- Conservation of Biodiversity

### Marketing assistance

- Connecting production and marketing
- Diversification of marketing channels
- Brand building for local specialties

The Company helped build corn drying factories and smart granaries in Nilek County and Jimunai County, Xinjiang to provide strong support for food security.

The Company helped build a feed plant in Qinghe County, Xinjiang, and created an integrated development model covering the entire industry chain from grass growing to product marketing.

The Company helped build inns beside terrace farmland in Hengfeng County, Jiangxi to promote rural tourism and create an eco-friendly and integrated model of development.

The Company helped 4326 people from 10 assisted counties find jobs to alleviate poverty, among which 529 were hired by our own company.

The Company set up the Rural Development Lecture training platform, which provided training for 197,000 community-level officials, rural revitalization leaders, and technicians.

Training courses on petroleum engineering under the CNPC Seedling Program enrolled 100 high school graduates from 6 assisted counties in Xinjiang.

The Company helped build two rural tourism demonstration projects in Fan County and Taiqian County, Henan to promote the development of home-stay tourism and cultural & creative sectors.

The Company carried out cultural-ethical advancement project in Xishui, Guizhou, and Hengfeng, Jiangxi. Also, around 600 themed cultural activities were organized to enrich people's cultural life in Xinjiang.

The Company carried out the Happy Villages Initiative to support household waste and sewage treatment in 76 villages and toilet upgrade for more than 2,000 households, to make these villages greener, brighter and more beautiful.

The Company carried out carbon neutrality and carbon peaking projects, e.g. national reserve forests and carbon sink research, in Qapqal County, Xinjiang, to promote green development in rural areas by purchasing, planting, maintaining trees and seedlings for an area of 10,000 mu and creating jobs such as forest rangers.

In Qinghe County, Xinjiang, an integrated water-saving fertilization project was put in operation to turn a 20,000-mu area of Gobi Desert into farmland.

In Xishui County, Guizhou, a demonstration project for rare specimen plants and land rotation practices was launched to maximize the ecological values in rural areas.

In Qinghe County, Xinjiang, the "Bringing Baby Beavers Home" program was launched to create a demonstration base for the harmony between human and nature. It combines science education, water conservation, protection of endangered species, and income creation for local farmers and herdsmen.

The Catalogue of Recommended Products for Marketing Assistance covering more than 3,000 items was issued. Employees and subsidiaries are encouraged to purchase these products.

A special section for products enjoying marketing assistance was set up in convenience stores at service stations and CNPC's online shopping platforms. Live stream marketing contests were also carried out to boost sales.

Leveraging its non-fuel marketing channels, the Company introduced local specialties such as Barkol melon, Nilek black honey, and Jimunai flour to promote industry upgrades.

## Education

At CNPC, we continue to help young people access equal opportunities for education and realize their dreams and value through various student aid programs, including scholarships and grants. The Company earmarked RMB 64 million to support education in 2022. In partnership with China Foundation for Poverty Alleviation and other organizations, the Company explored new ways to carry out education support programs, so as to help more students from poverty-stricken areas pursue further education.

### Promoting Local Development

At CNPC, we adhere to the principle of open-up and cooperation for mutual benefit, and keep expanding our joint-venture cooperation with local capital across the upstream, midstream and downstream sectors. During the process of developing and running our projects, we help foster local suppliers and contractors, thereby creating jobs and driving related business growth to achieve the city-based and industry-driven “city-industry integration”.

### Contributions to Local Communities in Overseas Operations

At CNPC, we respect local cultures and customs where we operate, and are committed to building long-term and stable cooperative relationship with the host country. As a good corporate citizen, we incorporate our development into local socioeconomic growth and actively create socioeconomic value to promote the development and prosperity of local communities.

### Managing Community Impact

At CNPC, we strive to exert a positive influence on community development through responsible operations. This is not only reflected in creating jobs, paying taxes, and providing business opportunities for local suppliers, but also in protecting the environment, safeguarding human rights of local residents and improving public welfare.

### Enhancing Communication with Local Communities

At CNPC, we set up coordinating bodies for environmental protection and community relations in many overseas operations to strengthen communication and coordination with local governments, NGOs and community representatives in a variety of forms.

In  
2022

- CNPC Scholarships provided RMB **4.47** million to **685** students.
- The Xuhang Scholarship Program earmarked RMB **11** million to support financially struggling students in 8 provinces.



“Teacher Training Program” for rural education development

### Participating in Community Welfare Activities

At CNPC, we play an active role in helping local people improve their living conditions by supporting education, healthcare and environmental protection to facilitate sustainable development in the local communities.

### Promoting Localization

The Company embraces localization strategy, with a preference for local products and services, so as to create opportunities for local contractors, suppliers and service providers to participate in its projects. We also support the development of SMEs and community-based start-ups, to create employment opportunities locally.



### Job creation for local residents

The Company partnered with SENATI of Peru to provide training and consultation for local residents in mechanical maintenance, machinery operation, computer software, and professional code of conduct. It helps to improve women's work skills and create 3,000 jobs every year.

### In 2022, we carried out a variety of community outreach activities overseas

Kazakhstan	<ul style="list-style-type: none"> <li>◆ The Aktobe Company supported the development of local culture, education and sports programs. With the company's sponsorship, the Aktobe table tennis center was established.</li> <li>◆ PetroKazakhstan donated 151 million tenge to charity and public welfare organizations in Kyzylorda Oblast.</li> </ul>
Iraq	<ul style="list-style-type: none"> <li>◆ The Halfaya Project donated education supplies to schools to support local education.</li> </ul>
Chad	<ul style="list-style-type: none"> <li>◆ The upstream project in Chad carried out a number of public welfare activities, such as "Sweet Community" and "Community Health &amp; Care", to share development opportunities with surrounding communities. It also actively participated in the "One Person One Tree" afforestation campaign led by the Chadian government, helping to plant 320,000 trees on the outskirts of the Chadian capital N'Djamena to support local environment protection.</li> <li>◆ The refinery in Chad actively carried out education, livelihood and other public welfare activities to improve schooling conditions and living standards for residents in local poor communities.</li> </ul>
Niger	<ul style="list-style-type: none"> <li>◆ To improve the well-being of local residents, the upstream project of the Niger Company focused its efforts on education, health, water supply and other public welfare causes. In 2022, seven new wells were built to enhance water supply for surrounding residents.</li> <li>◆ The Zinder refinery donated medicines and medical equipment to improve local medical and healthcare conditions. It also carried out afforestation at the factory site and surrounding villages to protect local environment.</li> </ul>
Canada	<ul style="list-style-type: none"> <li>◆ We participated in the Conservation Champions Program at the Calgary Zoo as a sponsor, to provide young people with the opportunity to learn about endangered species and environmental protection.</li> <li>◆ We also sponsored and joined (through a team of employees) the annual Dragon Boat Race held by the Calgary Dragon Boat Society.</li> </ul>
Singapore	<ul style="list-style-type: none"> <li>◆ 50 saplings were planted at Belok Reservoir Park, helping to add more green to the "garden city" of Singapore.</li> <li>◆ PetroChina International (Singapore) received the award of Singapore's Best Customer Service 2022/23 granted by the Straits Times.</li> </ul>