



2015  
Corporate Social Responsibility Report

## About the Report

This is China National Petroleum Corporation's 10<sup>th</sup> 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. 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, 2015. 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 2014 Corporate Social Responsibility Report was issued on April 28, 2015.

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

**Report content:** Our accomplishment 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:** In order to showcase our social responsibility performance in a more objective, comprehensive and prioritized manner, the 2015 report added main topics such as "Supply Chain Management" and "Technological and Management Innovation". While compiling this report, we carried out on-site investigations on the CSR performance of our affiliated

companies, verified the authenticity of enterprises case studies, extensively solicited opinions and suggestions and actively responded to the concerns of all stakeholders.

**References:** *The Guideline on Fulfilling Social Responsibility* by Central Enterprises and *Guidance on Central Enterprises' Implementation of Harmonious Development in the 12<sup>th</sup> Five-Year Plan Period* issued by the State-owned Assets Supervision and Administration Commission (SASAC). We also referred to *the Sustainability Reporting Guideline (G4.0)* published by the Global Reporting Initiative, *Oil and Gas Industry Guidance on Voluntary Sustainability Reporting (2015)* co-published by the International Petroleum Industry Environmental Conservation Association and the American Petroleum Institute, *ISO26000 Guidance on Social Responsibility* by ISO, *the Guidance on Social Responsibility Reporting (GB/T 36001-2015)* by China National Standardization Management Committee, and *China CSR Reporting Guide (CASS-CSR2.0)* 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](mailto:csr@cnpc.com.cn) or call 8610-59984395 for a hard copy. It is recommended that you download the PDF version of this report at [www.cnpc.com.cn](http://www.cnpc.com.cn) or scan the QR code for the mobile version.



We also issued the *Special CSR Report on CNPC Poverty Relief and Development (2006-2015)*.



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## Chairman's Message

I feel very pleased to present CNPC Corporate Social Responsibility Report 2015. The 12<sup>th</sup> Five-Year Plan came to a close in 2015. In the year, CNPC faced great challenges in achieving our operating objectives due to the sluggish recovery of the global economy, a slump in oil prices, and a slowdown in domestic oil & gas demand growth. We took the initiative to adapt to the New Normal of Chinese economy and identify opportunities and challenges in a bid to remold our corporate image and develop our businesses in a stable and sound manner while moving toward the strategic goal of "building a world-class integrated international energy company". We remained focused on oil and gas operations, tackled difficulties in corporate reform, properly handled various risks, and made greater efforts to shift our development concept from a scale and speed-oriented pattern of growth to an approach focused more on quality and efficiency.

Always bearing in mind that our company's sustainable development is inseparable from that of society, we strived to explore opportunities, seek development, and create shared value with all our stakeholders while meeting the demands of society and addressing common challenges based on the development concept of innovation, harmony, environmental-friendliness, openness and mutual benefit.

### Shifting to an innovation-driven mode for steady growth

Innovation is the source of vitality for our company's steady development. In 2015, we pushed ahead with technological innovation as well as innovations in concepts, systems, management, corporate culture and business model to accelerate our transition from a growth mode driven by investment, capital and labor, to the one powered by innovation. We enhanced efficiency in the development and utilization of existing resources through continuous technological breakthroughs, pushed the boundaries of energy development by proactively reserving cutting-edge technologies, and supplied energy in a more responsible manner by developing environmental-friendly technologies. In particular, "Theoretical and Technological Innovations for the Exploration and Development of Ultra-low-permeability Tight Oil and Gas Reservoirs at the 50Mt/a Changqing Oilfield" was granted the First-class National Science and Technology Progress Award. While continuously deepening corporate reform, we rolled out operational autonomy to more subsidiaries, adjusted and rationalized the management system of our overseas business, promoted joint-venture cooperation and the asset-light strategy, carried out the "Double Sequences of Professional and Technical Positions" reform in our research institutes, and streamlined our supervision mechanism, all of which achieved positive results. We adopted a series of measures to increase revenue and reduce expenses, lower cost & increase efficiency, took the initiatives of adjusting structure, controlling investment, reducing cost, achieving asset-light and tapping the potential for benefits enhancement. Our company presented the trend of stable and

healthy development. As a result, our business operations remained steady and sound in 2015, registering total profits of RMB 82.47 billion and tax payable of RMB 338.1 billion, despite investment being cut by 30.9% and the oil price falling by 49% from 2014.

### Promoting green development to address climate change

Climate change remains to be the most severe challenges faced by the world. In 2015, substantial progress was made in the global dialogue on the response to climate change. At the Paris Climate Change Conference, the goal of limiting the global temperature increase below 2 degrees Celsius was unanimously adopted by participating countries. We approve of this goal and spared no efforts to develop green low-carbon energy while stabilizing oil production, enhancing refining capacity and improving the quality of oil products. We accelerated the development and utilization of natural gas, which is a realistic approach to low-carbon growth and a business of high growth potential and strategic significance. In 2015, natural gas accounted for 40.6% of our total domestic oil and gas equivalent production, compared to 35.9% in 2011. We reinforced our efforts in gas exploration. Our gas production and supply accounted for more than 70% of China's national total, with our gas delivery through pipeline network accessible to more than 500 million people in 29 provinces, municipalities and autonomous regions. At the same time, we continued to explore the development and utilization of geothermal and other renewable energy, promote energy conservation and emission reduction, and enhance energy efficiency in the pursuit of all-around coordinated and sustainable socioeconomic and ecological development. We believe that our endeavors, together with support from the government and our stakeholders and clients, will surely help to make the environment we live in much cleaner and safer.

### Creating shared value for social harmony

We proactively shared development opportunities and resources with our stakeholders, so as to achieve mutual benefits. In 2015, under the implementation of such major strategies as "Road and Belt Initiative", the Coordinated Development of Beijing, Tianjin and Hebei Provinces, and Yangtze River Economic Belt, we extensively expanded our joint venture cooperation with social and private capital in upstream, midstream and downstream. By bringing into full play our technical and managerial expertise, we collaborated with local government and enterprises to transform their resources advantages into economic

benefits, and continuously enhance their capability of sustainable development. We partnered with the government of Xinjiang Uygur Autonomous Region and Xinjiang Production and Construction Corps to develop Hongshan Oilfield of Karamay. As of the end of 2015, the accumulative fees and taxes submitted already exceeded 300 million Yuan, and created over 3,000 jobs for the locality.

In China, we attached great importance to the "Blue Sky Project", spared no efforts in facilitating the rescue activities for the explosion accident at Tianjin Port on August 12, 2015, and managed to secure gas supply during the winter peak demand period. Overseas, when Sudanese children were in eager need of textbooks, when people in Nepal suffered an oil products shortage, and when safe drinking water was not accessible to residents in Tanzania, CNPC took action as a responsible corporate citizen besides expressing our sympathy. Our efforts and contributions have been widely recognized by society. Thanks to our outstanding performance in assisting the construction of overseas communities, CNPC was granted the "2015 Presidential Award for Corporate Responsibility" in Kazakhstan, the "Certificate of Achievement" in Tanzania, and the title of "Outstanding Company for Fulfilling Social Responsibility" in Oman.

The year 2016 marks the beginning of the 13<sup>th</sup> Five-Year Plan. It is also a crucial year for us to maintain steady development. Adhering to our strategies of resources, markets, internationalization and innovation, we will continue to focus on our core businesses to foster development advantages, deepen corporate reform to enhance growth vitality, promote innovation to boost development momentum, enhance HSE performance, reinforce development foundation, and improve our corporate image, in an effort to build CNPC into a world-class integrated international energy company, and make new contributions to the energy revolution and harmonious social development.

Looking to the future, CNPC will faithfully fulfill our responsibilities and obligations, and give back to society, our stakeholders and employees with excellent performance. We are grateful for your attention and support over the years. We will continue to promote communication through platforms such as this report, further enhance our interaction with all stakeholders, and jointly create a better future for all of us.



Wang Yilin, Chairman

# About us

As one of China's largest oil and gas producers and suppliers, CNPC is an integrated international energy corporation, with our business covering oil and gas exploration and development, refining and chemicals, marketing and trading, pipeline transmission and stockpiling, technical services, engineering construction, equipment manufacturing, and financial services. We are the leading company in oil and gas exploration and development in China, and possess oil and gas assets and interests in 38 countries. In 2015, CNPC ranked 3<sup>rd</sup> among world's top 50 oil companies and 4<sup>th</sup> in the Fortune Global 500.

## Our mission

Caring for Energy, Caring for You

## Our value

Integrity, innovation, safety, excellence

## Our philosophy

Patriotism, honesty, dedication, entrepreneurship

## Our strategy

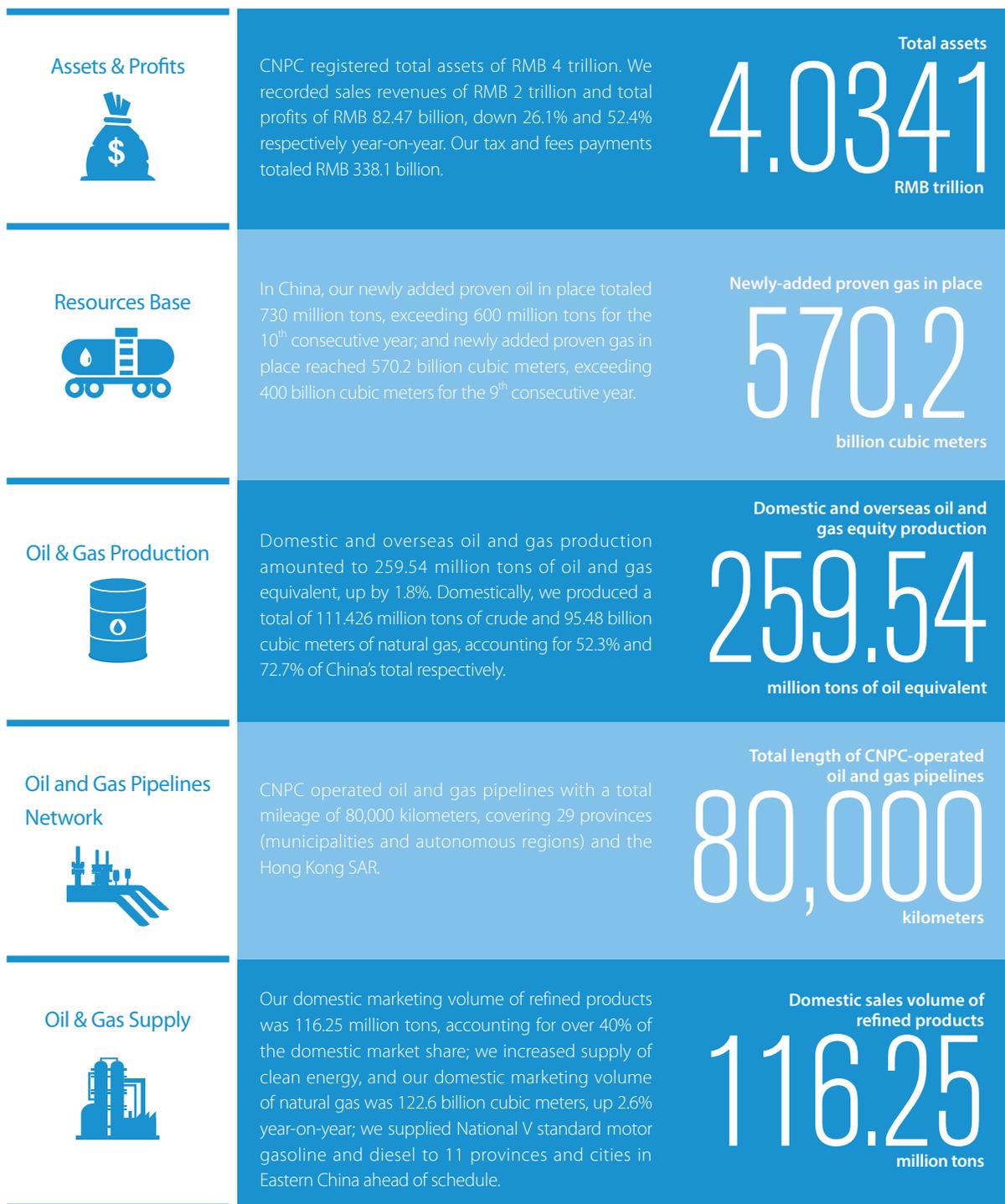
Resources, markets, international operation, and innovation

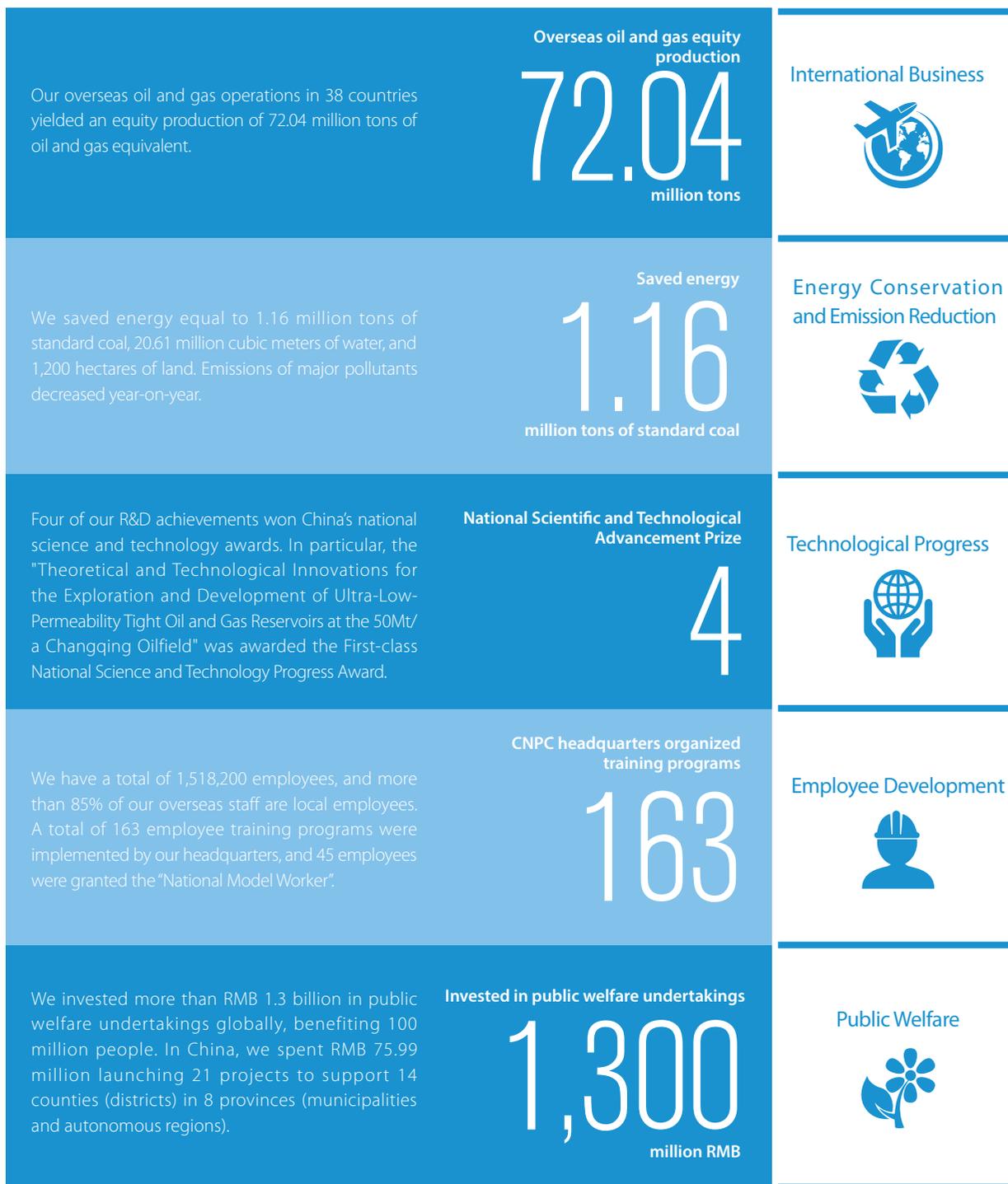
<p><b>Business Ethics</b></p> <ul style="list-style-type: none"> <li>● Compliance Management (P9)</li> <li>● Supply Chain Management (P39)</li> <li>● Management of Business Impact on Community (P55)</li> </ul>	
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# Figures in 2015

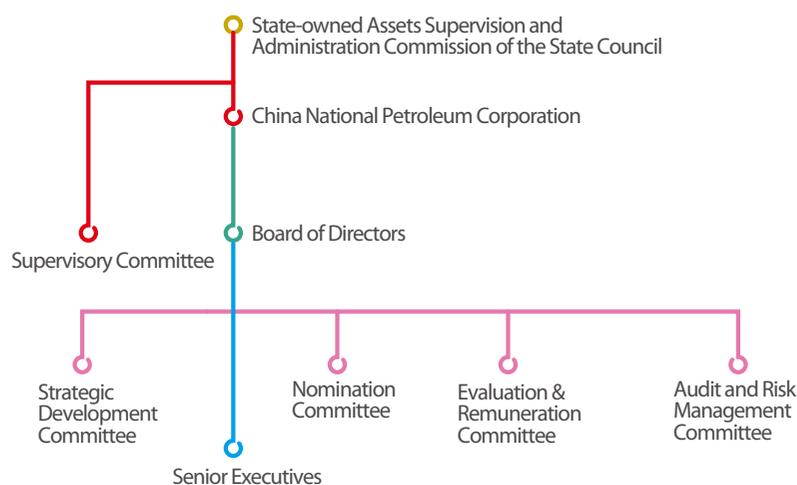




# Corporate Governance

CNPC is a solely state-owned enterprise. According to laws and regulations such as the *Company Law of the PRC*, and the *Law of the PRC on the State-owned Assets of Enterprises*, in addition to arrangements made by the State-owned Assets Supervision and Administration Commission of the State Council, CNPC promotes and regulates the establishment of a board of directors, and constructs and continuously perfects the legal person governance structure with clearly defined rights and responsibilities among the board of directors, supervisory committee and senior executives, to ensure that each department carries out its own duties with effective balance, scientific decision-making and coordinated operations. In 2015, we reinforced restriction and supervision of the exercise of power, 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



### Key work of the Board of Directors in 2015

#### Guiding the strategy development of the Company

- ▣ Established plans for business development, investment and budget of the Company in 2016
- ▣ Reviewed and approved the new investment management regulations
- ▣ Guided the formulation of the Company's development plan for the "13<sup>th</sup> Five-Year Plan"

#### Managing top management team

- ▣ Guided the management in promoting company-wide performance appraisal, and further improved measures for performance-based compensation and incentives
- ▣ Solicited advice and recommendations from external directors

#### Reviewing and approving major issues

- ▣ The Company's reform and innovation

#### Strengthening risk prevention and control

- ▣ Perfected systems to prevent and control risks, approved the detailed rules for the decision-making process concerning decision-making for key issues, appointment or dismissal of important executives, key investment projects, and the use of large amount of money
- ▣ Strengthened risk assessment, and required the management to improve business process analysis and risk assessment procedures
- ▣ Reviewed and approved the annual audit report and risk management report of the Company
- ▣ Strengthened risk supervision and inspection, particularly the audit of management efficiency and risk management at low oil prices

### Board of Directors

Based on their understanding and full access to information, Members of the Board of Directors express their explicit opinions and vote on matters under consideration in an independent, objective, serious and prudent manner. The Directors are accountable to the Board for their resolutions. The Board of Directors exercises its decision-making power by means of collective deliberation and voting.

### Affiliated Board Committees

As specialized organs directly under and accountable to the Board of Directors, the committees provide advice and recommendations for Board decisions. These committees perform their duties as authorized by the Board and in accordance with the *Articles of Association* of the Company. Committee members are nominated by the Chairman of the Board and approved by the Board.

In 2015, we successfully completed a new round of election. Giving full play to their respective professional advantages, the new Board of Directors exercises due care and diligence, playing a positive role in guiding the strategic development of the Company, strengthening the management of appointment of the senior executives, reviewing major issues, and strengthening risk control.

## Compliance Management

CNPC attaches great importance to corporate governance according to the law and operational compliance requirement. We insist on basing our relationships with our suppliers, contractors, customers, government departments, partners, competitors and other stakeholders on the principles of fairness and integrity to win the market and respect, and improve our quality and value through operational compliance.

### Compliance Management Mechanism of CNPC and Major Initiatives in 2015

Prevention	<ul style="list-style-type: none"> <li>• System and process</li> <li>• Risk evaluation and warning</li> <li>• Training</li> </ul>	<ul style="list-style-type: none"> <li>▣ Issued the <i>Integrity and Compliance Guidelines</i></li> <li>▣ Included compliance as the featured content into staff trainings at various levels, organized all-staff online training, superior-to-subordinate training, on-board training, etc. to ensure that employees understand the compliance requirements</li> </ul>
Control	<ul style="list-style-type: none"> <li>• Compliance registration and reporting</li> <li>• Compliance audit of important matters</li> <li>• Compliance archives</li> </ul>	<ul style="list-style-type: none"> <li>▣ Established compliance evaluation and filing system, to comprehensively record and evaluate compliance &amp; due diligence performance of employees, with the evaluation results as the basis for promotion and incentives</li> </ul>
Supervision	<ul style="list-style-type: none"> <li>• Compliance whistling and investigation</li> <li>• Compliance evaluation</li> <li>• Compliance audit and testing</li> </ul>	<ul style="list-style-type: none"> <li>▣ Conducted compliance investigations over business partners and related transactions</li> <li>▣ Established compliance information sharing-based linkage mechanism, and shared information in compliance risk assessment, investigation and punishment of non-compliance practices, etc, through the application of compliance management information platform and cooperation with audit, discipline inspection, internal control and other departments</li> </ul>
Accountability	<ul style="list-style-type: none"> <li>• Punishment and rectification</li> <li>• Corresponding system and procedure amendment</li> </ul>	<ul style="list-style-type: none"> <li>▣ Specified that persons-in-charge of the headquarters and subsidiaries are the first persons responsible for compliance management</li> <li>▣ Included compliance management requirements into performance evaluation and rigorously fulfill them</li> </ul>



CNPC Management and Control System

# Corporate Social Responsibility Management

## Corporate Citizenship Philosophy

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.

Upholding the corporate mission of “Caring for Energy, Caring for You”, 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 charisma to 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 return to society and realize value sharing.

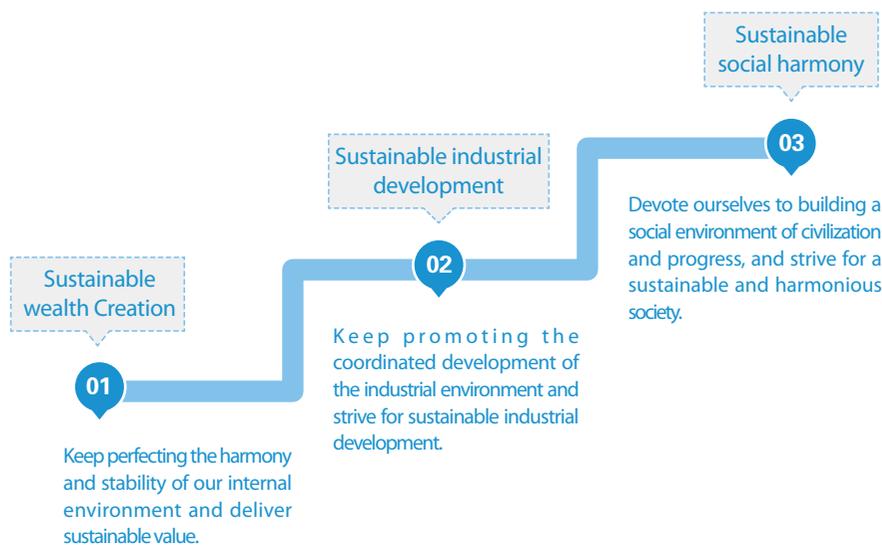
## Responsibility Management

At CNPC, we take it as a fundamental work to establish and improve the social responsibility management mechanism for advancing responsibility management. Focusing on system establishment, organizational structure and capability building, we have established a set of comparatively complete mechanisms on social responsibility management.

### System Building

We have developed working rules and regulations on economic, environmental and social responsibilities, laying a solid foundation for the fulfillment of social responsibilities. In

## CNPC as an Outstanding Corporate Citizen



2015, we continued our efforts to promote social responsibility management according to the scope and content of responsibilities defined in the *CNPC Guideline on Fulfilling Corporate Social Responsibility*.

### Organizational Structure

CNPC has established Social Responsibility Management Committee to make major decisions on social responsibility policies and planning. The Committee is composed of heads of the function departments at headquarters. Meanwhile, we have established the External Experts Committee and regularly hold communication meetings to solicit professional advice on social responsibility management and practices, and to provide support for our decision-making. Under the General Office of the Company, 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 concepts and planning.

### Capability Building

We actively carry out research in the field of social responsibility, promote CSR education and training, and boost CSR communication with relevant organizations home and abroad, so as to continue enhancing CSR awareness and the capability for fulfilling responsibilities among all employees. In particular, special research has been carried out on CNPC Social Responsibility Management and CNPC Public Welfare Management, providing a useful reference and basis for implementation of independent public welfare projects.

# 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 analyze 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 home and abroad to continuously improve stakeholder participation.

## Improving Disclosure of Social Responsibility Information

In 2015, we released reports on our progress in green and low carbon development and public welfare programs, including the "CNPC's Natural Gas Business Development and Air Pollution Control Report", "CNPC Oil Products Quality Upgrade Report", "CNPC Environmental Protection Report 2014", "CNPC Green Development Report" and "Responsibility of an SOE, CNPC in Xinjiang".

## Expanding Public Communication Channels

In 2015, we launched a series of campaigns to provide the media and the general public a better understanding of CNPC, including the Service Station Open Day, CNPC Open House Day, mystery customer visits, and activities which invited energy experts, college student journalists and Internet VIPs to pay visits to CNPC.



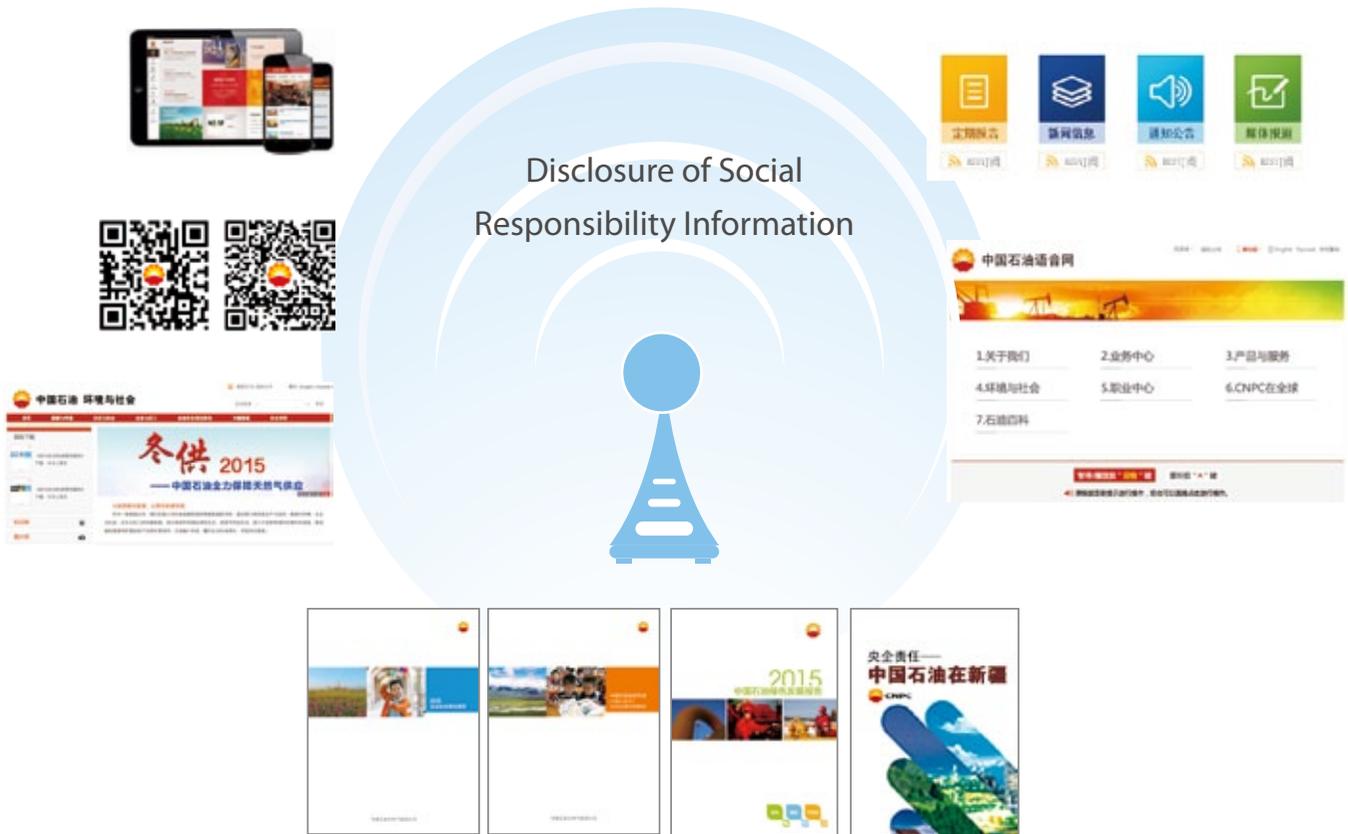
On August 8, CNPC launched the third season "Refueling Experience Event" in Lhasa, and invited journalists from over 40 media agencies including Xinhua News Agency, China News Service ([www.chinanews.com](http://www.chinanews.com)), China Youth Daily, Kaidi Network ([www.kdnet.net](http://www.kdnet.net)), and Tianya Club ([www.tianya.cn](http://www.tianya.cn)), to understand more about CNPC by visiting our service stations in Tibet.



On August 19-23, in partnership with China Youth Daily and China University Media Union, we continued to launch the 2<sup>nd</sup> event to invite outstanding student reporters from Chinese colleges and universities to CNPC's oilfields. 30 student reporters visited Qinghai Oilfield, where they learnt the whole process of oil production and the work and responsibilities of CNPC employees in harsh conditions at high altitudes.

## Promoting Transparency

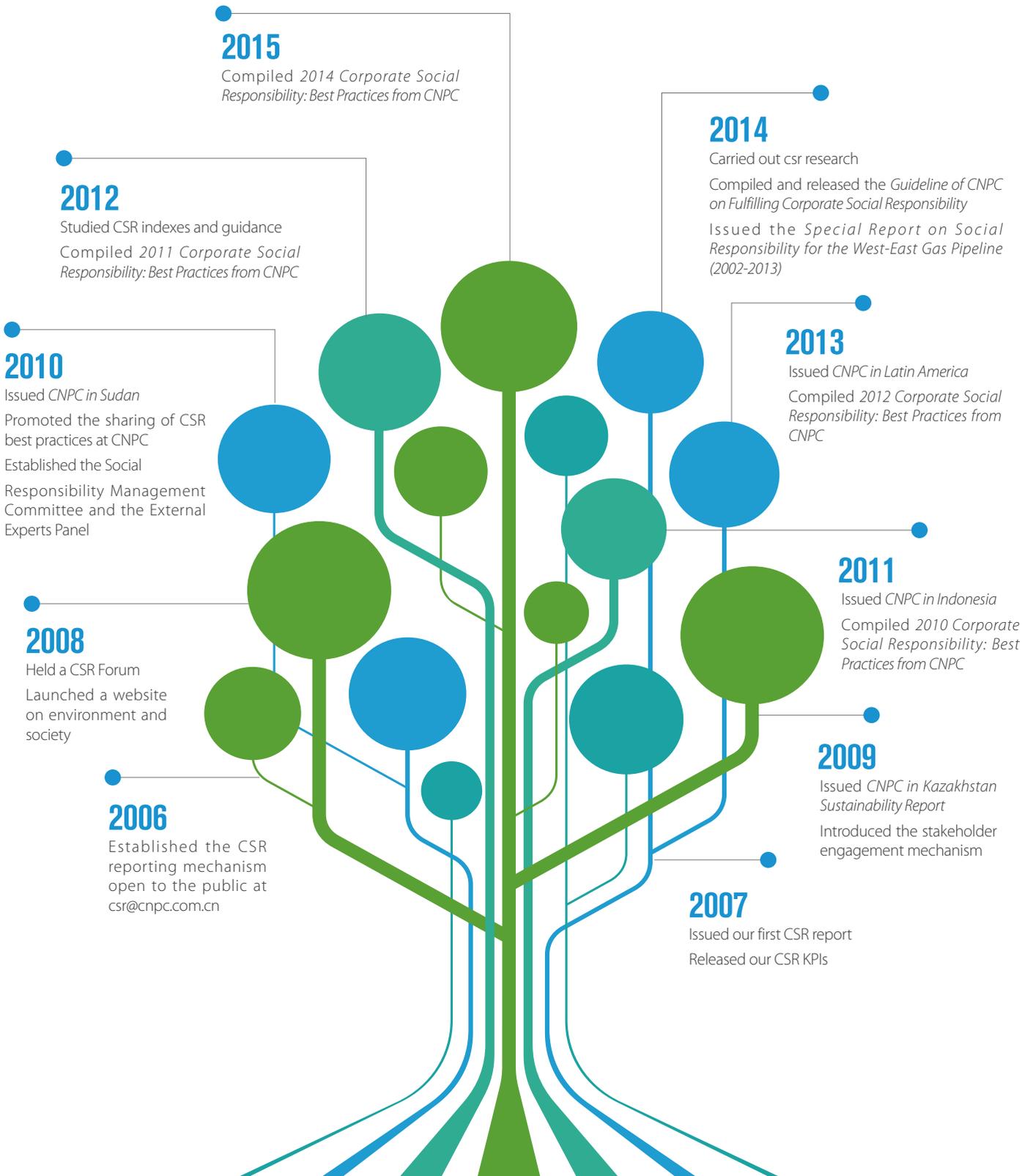
Through a microblog, WeChat, mobile platforms and other new media, we enrich information disclosure on social responsibility and enhance the effectiveness of our communications.



“ Nice to meet you in microblog. Maybe you have long been familiar with me from a single derrick standing in the Gobi desert or the glorious smile under our logo beside the expressway ... From now on, I'm just a click away. ”

### Official Microblog and WeChat for Interactive Communication

In November 2015, we set up our official microblog and WeChat accounts to tell our stories and send our message to the general public, and respond to public concerns.





Goals and Concerns

- Guarantee energy security
- Stabilize market supply
- Fulfill social responsibility
- Energy conservation and emission reduction
- Strengthen operation in compliance with all legal requirements
- Deepen enterprise reform
- Guarantee investors' interests

- Guarantee employees' rights and interests
- Employee career development
- Employee value realization
- Employee health and safety

- Provide safe, environmentally friendly, and high-quality products
- Provide quality services
- Improve customer satisfaction
- Establish communication mechanisms
- Advocate sustainable consumption patterns
- Protect consumer privacy
- Improve consumer complaints mechanism

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

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, and establish the national energy R&D center for heavy oil development

- 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
- Study and implement the *Work Safety Law of the People's Republic of China* and the *Environmental Protection Law of the People's Republic of China*, and carry out hazard control in key areas such as oil and gas pipelines

- Increase supply of clean oil products, with all motor diesel products reaching the National IV standard, and supply National V standard gasoline and diesel to 11 provinces and cities in Eastern China
- Further promote the CNPC Quality Month Campaign
- Implement oil and gas recovery projects to minimize evaporation
- Establish a unified service station management system and launch overall inspections on service stations



	Business partners	NGOs and relevant organizations	Communities and the public
Goals and Concerns	<ul style="list-style-type: none"> <li>● Comply with national laws, regulations and business ethics</li> <li>● Standardize HSE management</li> <li>● Fair competition, mutual benefits</li> <li>● Promote social responsibility in the value chain</li> </ul>	<ul style="list-style-type: none"> <li>● Participate in discussion on public policy and industry standards</li> <li>● Pay attention to industry trends and policy moves</li> <li>● Advance the sustainable development of enterprises and industries</li> <li>● Carry out cooperation in social development and environmental protection</li> </ul>	<ul style="list-style-type: none"> <li>● Promote community development</li> <li>● Protect community environment</li> <li>● Increase local employment</li> <li>● Support education, public health and other public welfare activities</li> <li>● Perform social investment</li> <li>● Enhance sustainable development capacity</li> </ul>
Means of Communication and Participation	<ul style="list-style-type: none"> <li>● Promote e-procurement through e-commerce platform</li> <li>● Share management experience and technical standards</li> <li>● Strengthen communication with suppliers and contractors</li> </ul>	<ul style="list-style-type: none"> <li>● Share corporate experience</li> <li>● Attend related meetings and forums</li> <li>● Facilitate international exchanges and cooperation</li> </ul>	<ul style="list-style-type: none"> <li>● Provide education, training and employment opportunities</li> <li>● Promote cultural exchange</li> <li>● Pay community visits</li> </ul>
Our Actions	<ul style="list-style-type: none"> <li>● Advocate fair competition, standardized operations, and promote the use of e-procurement and management platform</li> <li>● Strengthen control over key processes including design, procurement, construction and supervision, and strengthen HSE management for suppliers and contractors</li> </ul>	<ul style="list-style-type: none"> <li>● Exchanges with the public on their concerns</li> <li>● Participate in high-level strategic cooperation forums to discuss how to build an efficient, safe and competitive supply chain</li> </ul>	<ul style="list-style-type: none"> <li>● Carry out disaster relief, poverty alleviation and donations to education, and support the reconstruction of disaster-stricken areas</li> <li>● Carry out fixed-point poverty alleviation and aid programs</li> <li>● 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</li> <li>● Provide natural gas and other clean energy products</li> <li>● Support the development of SMEs and promote local procurement</li> </ul>



## Sustainable

# Energy Supply

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- Energy and Future Development
- Technological and Management Innovation
- Clean Energy
- Energy Cooperation

It is CNPC's due responsibility and mission to meet energy challenges and satisfy the ever increasing demand for low carbon clean energy. To this end, we have enhanced technological innovation, laid a solid resource basis, continued to increase our efficiency in hydrocarbon development and utilization, and raised the proportion of clean energy such as natural gas in our energy supply, in order to make contributions to the construction of a stable, safe, clean and economical energy supply system and the prosperity of human society.

# Energy and Future Development

## Energy Challenges

Continuous increase of energy demand. The *World Population Prospects* of the United Nations predicted that the world population will reach over nine billion by 2050. Population increase, urbanization and industrialization of developing countries will continue to drive the growth of global energy demand and consumption.

Equal access to energy. Over 1.2 billion people in the world still do not have access to affordable modern energy, losing the opportunity for equal development. Helping this group of people to obtain energy is an important part of the target of realizing the United Nations' goal of sustainable development.

Low-carbon transition to hold global warming below 2°C. Paris Climate Convention determines the aim of keeping global warming below 2°C by the end of the century, and that low carbon and low energy intensity will be the future direction of development. Nearly 200 countries have made the commitment to reducing carbon emissions and it is predicted that governments will introduce more supporting policies to promote low-carbon transition.

China's economic development has entered the "new normal". The country is actively promoting structural reform of the supply side, pushing forward energy production and consumption revolution, developing the cyclic economy, and building a clean, low-carbon, safe and efficient modern energy system. In 2015, coal still accounted for over 63.8% in China's energy consumption mix, which constituted a heavy burden for environment. Therefore, development of natural gas is widely acknowledged as the most practical approach for China's energy structure optimization.

## Providing Clean, Low-carbon and Affordable Energy

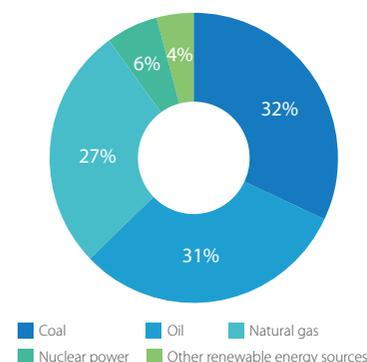
Oil and gas industry shoulders important responsibility in meeting global energy challenges. As a major player in the industry, CNPC has been actively cooperating with the government and companies in the industry chain, and strives to provide clean, low-carbon and affordable energy while meeting future energy demand, in an effort to jointly build a sustainable energy future.

We implement the development concept of innovation, harmonization, green, openness and sharing, actively improve ways of energy production, strengthen technological and management innovation, and constantly consolidate our resource basis. With the aim of future sustainable energy supply, we accelerate the development of natural gas, explore unconventional energy, deploy new energy development, and supply more clean energy. In addition, we expand international cooperation, optimize global business layout, and strive to become a major supplier to provide energy in a more environmentally responsible way to drive the socio-economic development.

**We support the UN's "Sustainable Energy for All" initiative, and we are willing to make our contributions to realize this initiative:**

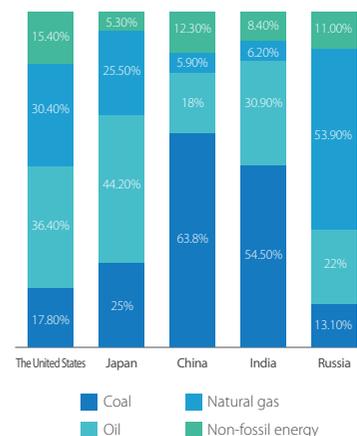
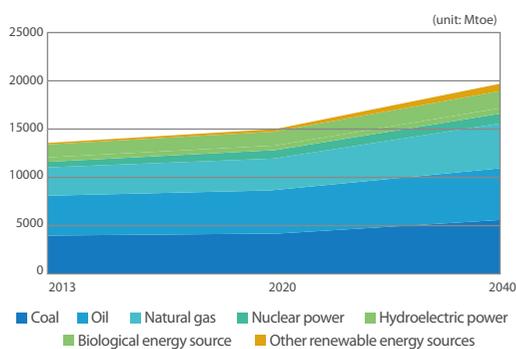
- α Ensuring universal access to modern energy services
- α Doubling the efficiency of energy utilization in energy efficiency
- α Doubling the share of renewable energy in the global energy consumption mix

Demand of world's primary energy of 2040 by categories\*



Primary energy consumption mix of some countries in 2015\*

Primary energy demand forecast of 2040\*



\*Data source: 2016 Energy Statistic Data of CNPC Economics & Technology Research Institute

# Technological and Management Innovation

Advanced and applicable technology and effective management innovation enable us to provide better energy solutions, address climate change, improve energy utilization efficiency, and hedge against the economic risk of low oil prices.

## Build Energy Future with Science and Technology

Technological innovation is the driving force for us to keep overcoming challenges. The remaining proven recoverable reserves are now mainly low permeability and lithologic reservoirs, whereas new discoveries are deteriorating in grade and difficult to recover. The overall exploration & development environment is getting more complex. Thanks to continuous technological breakthroughs, CNPC enhances the recovery of existing resources, explores new areas of energy development through cutting-edge technologies, and develops green production technology to provide energy for society in a more responsible way.

CNPC highlights basic research and technological R&D. Major alternative EOR technologies have been developed, such as tight oil and gas recovery, EOR for high water-cut, extra/ultra low permeability reserve, fire flooding for super heavy oil, and new catalytic materials. These solutions have supported the peak growth of reserves, steady development of Daqing Oilfield, stable production of Changqing Oilfield, increase of overseas production, and reserve increment of major strategic projects.

In 2015, CNPC's newly-added proven oil in place exceeded 600 million tons for the 10th consecutive year, and newly-added proven gas in place exceeded 400 billion cubic meters for the ninth consecutive year, with the total exceeding 1 billion tons of oil equivalent for the ninth consecutive year. Daqing Oilfield consolidated water flooding and tertiary recovery technologies, and promoted large-scale application of ASP flooding. The recovery rate of main blocks exceeded 50%. The key technology for low-permeability tight oil and gas exploration & development of the Changqing Oilfield helped set up a scale and effective development mode, and enabled oil and gas production of over 50 million tons for the third consecutive year in 2015. CNPC's total oil and gas production reached 259.54 million tons of oil equivalent in 2015, and the all-in cost of oil and gas dropped by 3.18% over last year. In addition, CNPC is capable of supplying National-V gasoline and diesel, and its comprehensive energy consumption for oil refining and ethylene combustion dropped continuously.

### Between 2011 and 2015

CNPC's accumulative newly-added proven oil and gas reserves accounted for 58% of China's newly-added proven oil and gas reserves of the same period.

58%

The Company's oil and gas production accounted for about 60% of the national total.

60%

## Innovative Technologies of CNPC

Exploration and development	<p><b>EOR for mature oilfields of high water cut</b></p> <ul style="list-style-type: none"> <li>✘ Fine separated layer water flooding technology EOR of mature oilfields</li> <li>✘ ASP flooding technology It became the major replacement technique for tertiary oil recovery of Daqing Oilfield, enhancing oil recovery by over 18%; oil production in 2015 exceeded 3.5 million tons</li> </ul>
	<p><b>Exploration and development of unconventional, deep and ultra-deep and complex structures</b></p> <ul style="list-style-type: none"> <li>✘ Physical simulation technology for the basic research of petroleum geology in petroliferous basins It has realized quantitative, visualized and standardized physical simulation of reservoir forming of petroliferous basins, and provided technical support for the basic theory development of oil and gas geology in unconventional, deep and ultra-deep complex structures</li> <li>✘ Combustion in-situ development technology It is expected to become the strategic replacement technique for heavy oil development</li> <li>✘ Natural gas reservoir forming theory of Ordovician carbonatite It has guided the discovery of a batch of large oilfields, and helped form a gas province of 1 trillion cubic meters' reserves in eastern Ordos Basin</li> <li>✘ Extra-low permeability tight oil and gas E&amp;P technology The development mode has accelerated the efficient and scale development of tight oil and gas</li> <li>✘ Geological theory and exploration technology of oil and gas reservoir forming in hydrocarbon-rich depression allochthonous lithologic stratum It has guided proven geological reserves of 230 million tons at the Mahu Depression, and increased exploration well success ratio by 20%</li> <li>✘ Accurate seismic imaging technology for mountainous complex structure It is massively applied in oil-gas exploration of mountainous complex structures home and abroad, and has greatly improved the accuracy of structure imaging and obtained obvious economic benefit</li> <li>✘ Ultra-deep carbonate rock imaging logging technology It has greatly improved well logging interpretation coincidence rate and the reservoir parameter evaluation accuracy of horizontal wells</li> <li>✘ Optimized drilling and completion technology for deep and ultra-deep wells It has continuously reduced outage time of accident and greatly shortened drilling cycle, and supported the massive reserves and production increase at key areas like Kuqa Mountain Front in Xinjiang and Anyue in Sichuan</li> </ul>
Refining and chemicals	<ul style="list-style-type: none"> <li>✘ Technical packages including optimized overall technology for large refinery, catalytic cracking, and gasoline and diesel hydrogenation Independent design and engineering construction abilities of 10Mt/a refinery have been formed</li> <li>✘ Upgrading technology of gasoline and diesel quality It has supported upgrading of National VI and National V standard gasoline and diesel, meeting the market demand for clean oil products.</li> <li>✘ Processing technology of inferior heavy oil Low recycle ratio and high liquid yield delayed coking is massively popularized and applied, effectively preventing equipment corrosion and realizing up-to-standard discharge of wastewater</li> <li>✘ Technical package for large-scale ethylene units It has been applied in ethylene revamping project of Daqing Petrochemical, which was commissioned successfully and realized stable operation for over three years</li> <li>✘ New polyolefin product technology Breakthroughs were made in material development, for producing gas pipe, floor heating pipe, medical products, IBC barrels, heat-resisting polypropylene products, special BOPP films, etc, with domestically leading technical indexes</li> <li>✘ Technology for producing new high-performance synthetic rubber products The industrial application of the technical package for production of NdBR was realized, and breakthroughs were made in new SSBP products and its application technology in high performance tires</li> </ul>
Green production	<p><b>Three technical packages - energy conservation and efficiency improvement, emission reduction and wastes recycling</b></p> <ul style="list-style-type: none"> <li>✘ The energy conservation and emission reduction demonstration projects saved 350,000 tons of standard coal and 15 million cubic meters of water, and reduced 100,000 tons of sludge discharge, 205 tons of COD emissions and 900,000 tons of CO<sub>2</sub> emissions.</li> <li>✘ FCC flue gas desulfurization technology Applied to more than 20 sets of catalytic devices for SO<sub>2</sub> removal</li> <li>✘ VOCs control technology for refining devices Lay the foundation for substantial reduction of fugitive emissions</li> </ul>

### First-class National Science and Technology Advancement Award

The "Theoretical and Technological Innovations for the Exploration and Development of Ultra-Low-Permeability Tight Oil and Gas Reservoirs at the 50Mt/a Changqing Oilfield" has blazed a trail of low-cost development of unconventional oil and gas fields. It also provided quotable technical reserves and a low-cost development model for the scale development of China's more than 20 billion tons ultra-low permeability tight oil and 21 trillion cubic meters tight gas resources. It was awarded the First-class National Science and Technology Progress Award.

### Zhai Guangming, academican of Chinese Academy of Engineering: Scientific innovation is the driving force for exploration and development in the Ordos Basin

Covering a total area of 360,000 square kilometers, the Ordos Basin is composed of continental strata in the upper layer and Paleozoic marine strata in the lower layer. Due to the inadequacy of the technologies at the time, such a large-scale oil and gas basin remained undeveloped until the 1970s. Paleozoic marine strata have always been the challenge that Chinese geologists are anxious to overcome.

The successful development of oil and gas resources is inseparable from the progress in science and technology. During the "12<sup>th</sup> Five-Year Plan" (2011-2015) period, new breakthroughs were made in exploration methods and development technologies. Advanced technologies helped to unlock tight oil and gas formations, and built Changqing Oilfield into the largest oilfield in China with a production of 50 million tons of oil and gas equivalent. The E&P technology progress is expected to make the Ordos Basin play a bigger role in the future.

## Clean Energy

In order to secure future sustainable supply of clean energy, we vigorously develop natural gas business, explore new energy development and continuously enhance the quality of oil products to meet market demand for clean and high-quality energy.

### Natural Gas

CNPC intensifies natural gas exploration and development as a strategic and growth-oriented project, accelerates the construction of transnational natural gas pipelines and domestic natural gas pipeline network, promotes the development of conventional natural gas and unconventional gas such as tight gas, shale gas and coalbed methane, and imports overseas natural gas resources to build a diversified energy supply system.

## Increase Profit through Management Innovation

Faced with low oil prices and the new normal of economic development, CNPC strengthened reform and management and promoted quality and profit, by relying on technology and all its employees to take measures in structural adjustment, investment control, cost reduction, low inventory, asset-light strategy, etc.



### Management and reform actions in 2015

1. Pushing forward the separation of pipeline transmission from marketing business and conducting specialized restructuring of businesses like city gas.
2. Expanding pilot projects for expanding management autonomy.
3. Promoting asset-light strategy.
4. Deepening joint venture and cooperation, and stably advancing the mixed ownership reform.
5. Conducting reform on professional rank-based career development for professional technical people at R&D institutions.
6. Strengthening the performance based compensation & evaluation, and reinforcing the incentive and restrictive mechanism.

### Domestic natural gas

Domestic natural gas sales volume in the nation's total **70%**

Year-on-year increase of domestic gas production's proportion in CNPC's total domestic oil and gas production **0.5%**

Domestic natural gas production in the nation's total natural gas production **72.7%**

## Four Natural Gas Provinces

CNPC has four gas provinces in China, namely, the Changqing, Tarim, Southwest and Qinghai gas provinces, with a total production capacity of 85.8 billion cubic meters, which can meet over 40% of domestic demand for natural gas. From 2011 to 2015, gas production of CNPC maintained an annual average growth rate of 5.7%.

## Storage and Transportation Infrastructure

We continuously promote the construction of transnational natural gas pipelines, domestic natural gas pipeline network, and peak shaving facilities such as underground gas storages, in an effort to build a natural gas pipeline network connecting various areas of China and importation channels, and promote resource allocation and market supply capacity.

- ▣ In 2015, CNPC operated 51,000 kilometers of natural gas pipelines, covering 29 provinces (municipalities and autonomous regions) and Hong Kong SAR in China and benefiting more than **500** million people.
- ▣ 17 gas storages with an effective work volume of 5.21bcm.
- ▣ Three coastal LNG receiving terminals with an annual unloading capacity of 13million tons.

## Unconventional gas development

**Tight gas**  
Production in CNPC's domestic natural gas production **28.3%**

**Coalbed methane commercial production** **1.76**  
bcm

**Shale gas commercial Production** **1.3**  
bcm

## Promoting Natural Gas Utilization and Alternative Fuels

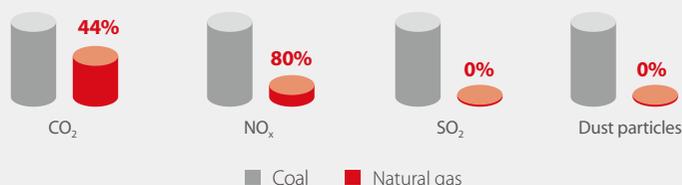
CNPC has actively expanded the utilization of natural gas in areas such as city gas, gas-fired power generation, public transportation, shipping, etc. In Beijing, Hebei and Xinjiang, we promoted coal-to-gas projects to improve the environmental quality in winter. In regions such as the Bohai Rim, Yangtze River Delta, Sichuan, Chongqing and Lhasa, we promoted the use of LNG vehicles in city buses, long-distance passenger transport, logistics and transportation sectors, and built LNG filling stations and other transportation facilities. There are currently over 100 CNG and LNG filling stations operational in Beijing, Tianjin and Hebei and serving nearly 10,000 new energy vehicles, effectively improving the atmospheric environment.



Investigation by the Ministry of Environmental Protection shows that major air pollution sources in China include traffic, coal and industry, among which coal accounts for 60%.

Emission reduction goal in *Air Pollution Prevention and Control Action Plan*: by 2017, in comparison with 2012, the concentration of inhalable particles in cities at and above prefecture level will be reduced by over 10%, and number of days with good air quality will increase year by year; concentration of fine particles in Beijing-Tianjin-Hebei Region, the Yangtze River Delta and the Pearl River Delta will be reduced by around 25%, 20% and 15% respectively.

Pollutant discharge of natural gas is much lower than that of coal, and natural gas is the most practical approach to improve atmospheric quality and control atmospheric pollution.



In 2015, CNPC's gas sales volume was 122.6 bcm, which, if calculated by equivalent heat value, is equal to substitution of 229 Mt of standard coal, and emission reduction of 172 Mt of CO<sub>2</sub> and 2.688 Mt of SO<sub>2</sub> respectively.

### Transportation fuel substitution

- ▣ Promoting demonstration projects for using CNG and LNG in the transportation industry
- ▣ In 2015, the Company sold CNG of 1.24 billion cubic meters
- ▣ By the end of 2015, the Company had 1,120 CNG stations

### Powerfuel substitution

- ▣ The Company directly supplied 7.76 billion cubic meters of natural gas to gas fired power plants
- ▣ Equivalent to replacing coal of 14.49 million tons for power generation, and reducing carbon dioxide emissions of 10.89 million tons and sulfur dioxide emissions of 170 thousand tons respectively

### Fuel substitution for coal fired boilers

- ▣ Promoting coal-to-gas projects in northern China



Natural gas as an alternative fuel

## New Energy

With an eye on the future, we develop geothermal energy, solar energy and other renewable energy sources in good order, and actively explore the development and utilization of resources such as sandstone-type uranium deposit and natural gas hydrates, aiming to give full play to the role of new energy in the establishment of a sustainable energy supply system.

## Upgrading of Refined Products

While providing consumers with clean energy, we also upgrade the quality of gasoline and diesel products through strengthening technological innovation and intensifying the revamping of refining facilities. In 2015, we supplied motor gasoline and diesel of National V standard to 11 eastern provinces (municipalities and autonomous regions) ahead of schedule. The Company plans to complete the quality upgrading to National V standard by the end of 2016.

### Geothermal energy

we carried out geothermal energy development and utilization research in oilfields including Huabei, Liaohe and Xinjiang; gave play to our technical advantages to develop local geothermal energy with the Ministry of Energy and Petroleum of Kenya.

### Solar energy

we applied photovoltaic power generation technology in oilfields including Xinjiang and Jilin to supply energy for oil wells; and our Beijing Marketing Company has built an all-solar energy service station.

### Biomass energy

we developed integrated solutions for scale and intensive planting and harvesting, raw materials processing, storage and transportation, oil refining, and product distribution. As a result, large-scale production and supply capacity of biomass diesel and fuel ethanol gasoline were built up.

### Gasoline quality upgrading technology

- Selective hydro-desulphurization of FCC gasoline (DSO)
- Selective FCC gasoline upgrading (GARDES)

### Diesel quality upgrading technology

- Ultra low sulfur diesel hydrorefining (PHF)
- Low-grade diesel hydrorefining (FDS)

## Acceleration of oil product upgrading in 2015

	January 1, 2016	January 1, 2017
Objectives	Supply motor gasoline and diesel of National V standard to 11 eastern provinces and cities	Implement National V Standard for motor gasoline and diesel nationwide
Estimated newly added demand	<b>90Mt</b> motor gasoline and diesel	<b>120Mt</b> motor gasoline and diesel
Proportion of refineries capable of producing motor gasoline and diesel of National V standard	<b>39%</b>	<b>100%</b>
Number of quality upgrading projects	<b>28</b>	<b>57</b>
Total investment	<b>RMB 12.8 billion</b>	<b>RMB 12.7 billion</b>

# Energy Cooperation

International energy problems can't be solved without 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 to address the local energy challenges, in order to meet local energy demands and maintain regional energy security.

## By the end of 2015

CNPC operated oil & gas cooperation projects countries worldwide

38  
countries

CNPC operated oil & gas cooperation projects

94  
projects

## International Energy Cooperation

In 2015, CNPC further deepened cooperation with countries within China's Belt and Road Initiative, such as Central Asian countries and Russia. Despite low oil prices and regional turmoil, CNPC guaranteed the stable operation of cooperation projects and gave priority to projects with great contribution to local economy and society. In Kazakhstan, the phase III project of Zhanazhol's Third Oil & Gas Treatment Plant of AktobeMunaiGas was successfully put into production. The project is a natural gas integrated utilization project of the largest CNPC investment in Kazakhstan and a key national environmental demonstration project of the country, and has guaranteed the domestic gas supply in Aktobe and southern Kazakhstan. In Myanmar, the Myanmar-China Oil & Gas Pipelines project, which is jointly constructed and operated by CNPC and our partners, is the largest oil & gas transmission infrastructure in the country. It has accumulatively supplied 424 million cubic meters of natural gas for Myanmar. The pipeline project has diversified the import and export of oil and gas in Myanmar, promoted the growth of local oil & gas industry and the clean urbanization, and will play an important role in stabilizing regional energy supply.

## Joint E&P in China

We continue to make steady progress in cooperation with international partners in developing oil and gas resources in China. In 2015, we successfully took over the operatorship of Zhaodong Project in Dagang, setting an example for CNPC's joint exploration and development of offshore oil & gas. The Phase I of Chuandongbei Project in partnership with Chevron has been put into production and it will supply more natural gas to Sichuan Province and

Chongqing Municipality. We also took over the operatorship of Phase I of Changbei Project of Changqing Oilfield in partnership with Shell, and have promoted the two companies' cooperation in management and technology.

## International Marketing

We keep perfecting global marketing network and strengthen trans-regional resource coordination to serve the international oil and gas market. We have basically established three oil and gas operation hubs in Asia, Europe and the Americas, providing trade, processing, storage, and transportation services to international markets. In 2015, we reported 430 million tons of international marketing volume. Additionally, CNPC's Gasoline of National V standard was exported to Australia for the first time, meeting the local demand for high-end oil products.



Third oil and gas treatment plant of Aktobe Munai Gas



## Ensuring Stable Gas Supply in Winter



CNPC supplies natural gas to over 500 million people in over 30 provinces (municipalities, autonomous regions and SARs) in China. Due to the large seasonal fluctuations in gas consumption and insufficient peak-shaving facilities, securing the user demand for natural gas in winter is not only a matter of responsibility for the people's livelihood, but also a major test for the Company. In particular, in late November 2015, extreme cold weather hit most areas of China, and North China suffered rare cold weather that had not been encountered for 64 years. In addition, smog control exacerbated gas consumption. As a result, gas sales in November 2015 increased by 13.9% year on year. In November and December of 2015, we supplied 27.34 billion cubic meters of gas to the market, representing an increase of 11.4% year on year, and ensured stable gas supply in winter.



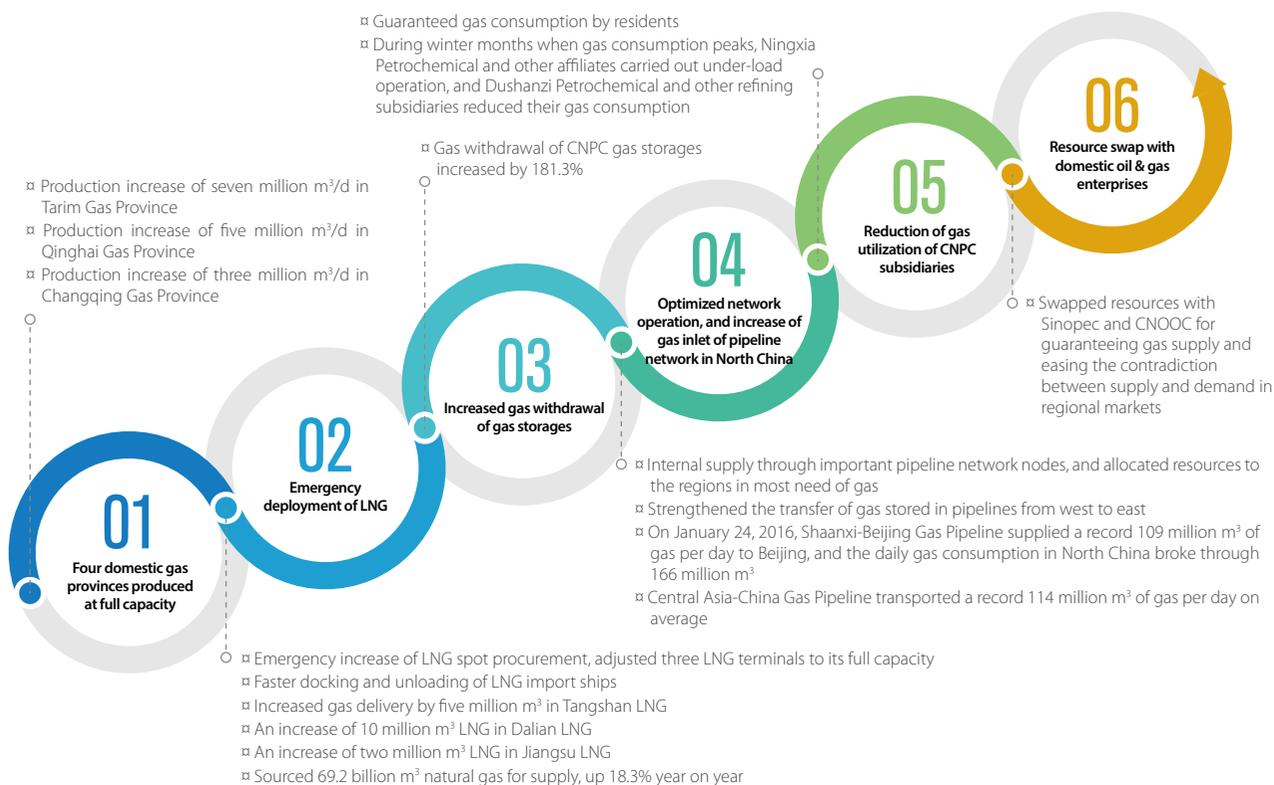
### What are the difficulties in securing gas supply in winter?

As an efficient and clean energy, natural gas has seen rapid growth in consumption in recent years. However, natural gas consumption in China faces great seasonal imbalance due to its gas consumption structure, with growing difference between peak demand in winter and off-peak demand in summer. During the heating period in the first and fourth quarters, natural gas consumption sees a substantial increase relative to the second and third quarters. In 2015, the difference in the average daily gas consumption between the heating period and non-heating period is about 120 million cubic meters, accounting for 37% of average daily gas consumption throughout the year. Gas storage serves as a major way of dealing with seasonal fluctuations in gas consumption. In mature natural gas markets overseas, the gas storage and peak shaving system is more advanced. In the US, the working gas volume from gas storages for peak shaving accounts for 18% of the country's total gas consumption, and in Europe the ratio is over 20%. By the end of 2015, China established 18 gas storages, among which 17 belong to CNPC. CNPC's working gas volume at these gas storages is 5.2 billion cubic meters, accounting for a mere 2.7% of the national gas consumption.





## Six measures for securing gas supply in winter



# 2

## Responsible Operation

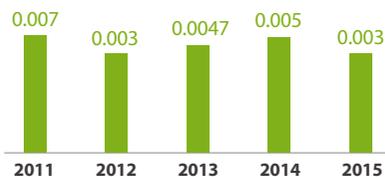
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- Safe Operation
- Environmental Protection
- Climate Change
- Products and Services
- Supply Chain Management

We are always committed to the principle of “Environment prioritized, safety first, quality foremost, people oriented” and the goal of “zero defects, zero injuries and zero pollution”. We regard providing clean energy, minimizing environmental impact and reducing emissions as the strategic foundation for the Company’s sustainable development. The Company continues to improve product and service quality management, 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

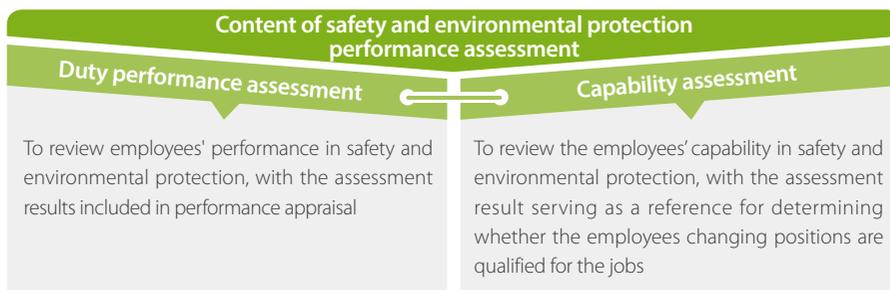
**Fatality rate caused by work safety accidents (person/million working hours)**



We actively promote the construction of long-acting work safety system and comprehensively enhance the work safety management level. In 2015, the work safety situation at CNPC was improved stably.

## Management System and Performance Assessment

In 2015, we formulated and revised safety management regulations and mechanisms, including the *Administrative Measures for Production Safety Risk Control*. We strengthened the implementation of the safety and environmental protection responsibilities of all employees, and carried out an appraisal of their capabilities to perform safety and environmental protection duties. As a result, the company-wide safety management system that is clearly graded in responsibilities and covers all staff was continuously perfected.



## Potential Hazard Control

We put emphasis on hazard prevention and control to improve the intrinsic safety level at CNPC. In 2015, we carried out special investigation and rectification activities and cooperated with local governments to jointly promote pipeline hazard control. We developed platform for tracking the hazard rectification of oil and gas pipelines, realizing the real-time tracking of hazard rectification.



**Mike, Safety Director of the Chuandongbei Project in cooperation with Chevron, was pleased with the safety performance during his daily inspection.**



## Emergency Management

By adhering to the principle of "putting emergency preparedness first and combining with emergency rescue", we constantly improve our emergency management mechanism and strengthen emergency rescue capability building. In 2015, we formulated the *Measures on Work Safety Emergency Management* and *Five Rules on Strengthening Emergency Response*, revised the *Emergency Response Plans*, and launched a pilot program on the application of an emergency response card for all grassroots posts. In addition, we participated in oil spill response exercises and maritime search and rescue. As a result, our accident prevention and emergency response capability has been enhanced.



The Office of Work Safety Committee of the State Council sent a letter of thanks to CNPC, expressing gratitude for the Company's efforts in the relief work of the explosion accident in Tianjin, "CNPC subsidiaries including CPP and Fushun Petrochemical have made important contributions to the prevention of secondary accidents, and the restoration of normal production and life order. Therefore, we would like to express our sincere thanks to CNPC and relevant subsidiaries and participants for their efforts".

### Implementation of whole-process management on work safety incidents



## Hazardous Chemicals Management

We implement unified management over the production, operation, packaging, storage, transportation, use and disposal of hazardous chemicals. In response to the explosion accident in Tianjin at the hazardous goods warehouse of Ruihai Logistics Company on August 12, 2015, we actively participated in the emergency rescue and cleanup of hazardous chemicals, and drew lessons from the accident. We conducted work safety inspection and targeted rectification of hazardous chemicals and inflammables and explosives, in order to timely rectify and screen out problems and hidden risks.

### CNPC's rescue in explosion accident in Tianjin

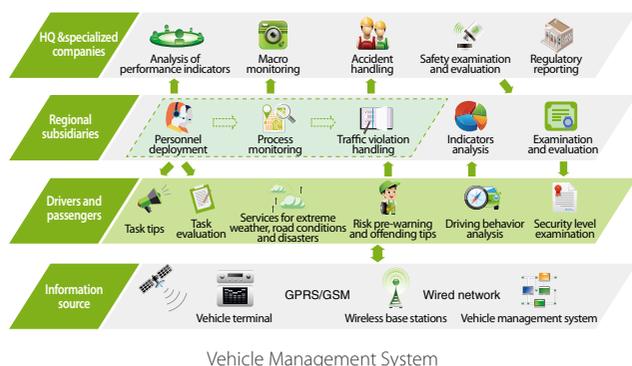
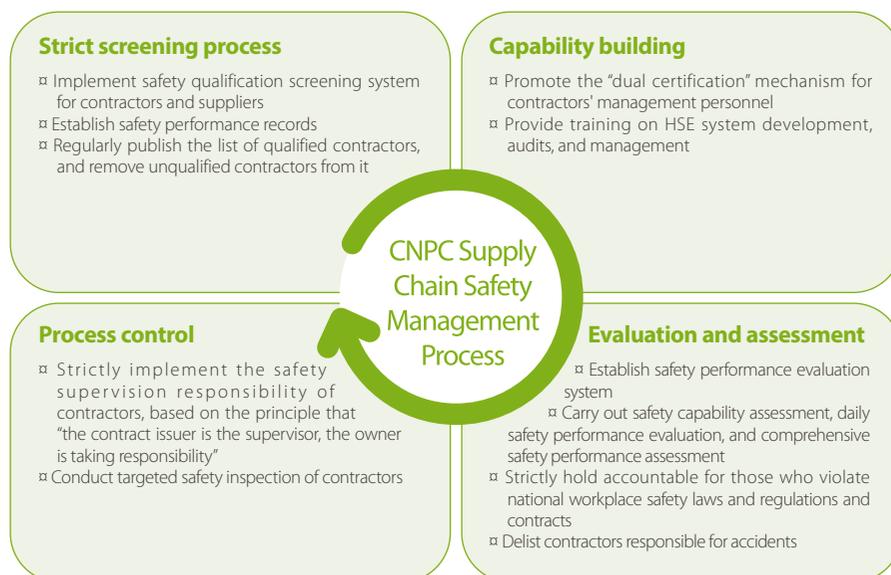
China Petroleum Pipeline Bureau	Fushun Petrochemical Company	Dagang Petrochemical Company	Dagang Oilfield Company	Tianjin Marketing Company	CNPC Research Institute of Safety & Environment Technology
Dispatched emergency squads of over one hundred persons, and completed emergency tasks, such as safe disassembly of containers and tanks, disposal of dangerous gas cylinders, cutting of steel structure factory buildings, dry gas washing, and providing technical support for UAV filming.	Organized professional rescue teams to the accident site for three times, checked explosion areas of 35,000 square meters and cleaned out solid sodium cyanide of 70 kilograms.	Sent several experts to the core area, timely delivered paraffin oil of 1,700 kilograms, and participated in the identification and disposal of dangerous chemicals left on site.	Cleaned out the dangerous chemicals left in tankers, organized oilfield hospitals to provide emergency aid and treatment for the wounded, and delivered medical supplies.	Opened green channels at subsidiary service stations for rescue vehicles, and supplied free food and drinking water to rescue troops and the general public.	Dispatched emergency experts to the core area to evaluate the situation, and provided suggestions on wastewater treatment and emergency monitoring to relevant government ministries.

## Supply Chain Safety

We incorporated suppliers and contractors into our safety management system and conducted whole-process management on their entry, selection, training, application, evaluation and assessment, in order to prevent and reduce accidents caused by suppliers and contractors.

## Road Traffic Safety

We strengthened the traffic safety system construction and continued to promote the formulation of the vehicle management system which integrates monitoring, control and scheduling functions. The system was first implemented at 12 subsidiaries including Liaohe Oilfield Company and CNPC Transportation Company, which enabled us to implement dynamic real-time vehicle safety management and control, and thus effectively prevented major traffic accidents.



## Overseas Security

The personnel safety has always been an overriding priority in our overseas operations. We steadily promoted social security management systems, continuously enhanced emergency response capabilities, and eliminated security-related fatal incidents.

In 2015, we formulated *Security Management Regulations for International Business*, carried out an appraisal and review of overseas security management system performance, and implemented risk assessment and counter-terrorism security training. All these measures have effectively responded to the impact of threats including the Civil War in South Sudan, the "Boko Haram" threat in Niger, and terrorists in Afghanistan, and contributed to the improvement of the overseas security management level.

## Overseas Security Risk Management (four levels)

Risk level	Management measures
Extremely high risk	CNPC sets out clear and unified security management requirements and implements intensified security management policies.
High risk	Before project implementation: carry out security risk assessment and formulate an effective security program. The project shall not be implemented until it is reviewed and approved by the Company. During project implementation: keep improving the security program and revising the emergency response plan according to changes in local security situations, and organize drills to ensure personnel safety.
Medium risk	Carry out risk assessment, formulate an emergency response plan and implement security measures before project implementation.
Low risk	Implement necessary security measures.

# Environmental Protection

We take the initiative to evaluate the environmental impact of our decisions and activities, and make efforts to reduce adverse effects on the environment and climate. By improving the resource utilization efficiency, implementing the Clean Air Act, promoting energy conservation and emission reduction, and striving to achieve environmentally-friendly and resource-saving operations, we vigorously advocate ecological civilization, in order to achieve harmonious development with the environment.

## Strengthening Risk Prevention and Control

In view of the major risks in environmental protection, 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 "management in tiers, prevention and control by levels", in order to ensure overall control over environmental risks. In 2015, the Company reported neither major environmental pollution nor ecological damage accidents.

### Continuous improvement of environmental monitoring capacity effectively enhanced our ability to respond to spills of hazardous substances.



## Sustainable Application of Energy

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

CNPC endeavors to improve water utilization efficiency and realize sustainable water utilization throughout various links in our production and operation activities. In 2015, we improved water management by using wastewater treatment and reclaimed water reuse technologies to reduce freshwater consumption. A total of 20.61 million cubic meters of water was saved in the year.

## Eco-environmental Management in Full Life Cycle throughout the Industry Chain



Exploration and Development

In our oil and gas development, equal importance was given to water pollution prevention & control and water recycling. After the oil-water separation and filtration treatment of the recycled wastewater, oil recovery and water reinjection were both realized, preventing groundwater and surface water contamination. By the end of 2015, over 97.7% of oil extraction wastewater in our oil and gas fields was treated, with a reinjection rate of more than 93.8%.

We carried out water system maintenance and revamping, improved the water qualification rate, optimized operation programs, and upgraded wastewater discharge and treatment processes to reduce production water discharge, and promoted the application of new technologies for water treatment to maximize water conservation. In 2015, the comprehensive qualification rate of the Company's oilfield wastewater reached 94.08%, and water discharges were reduced by 30% year on year.



Pipeline Operations

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 assimilated into construction activities.



Refining and Chemicals

We improved water consumption efficiency by promoting clean production processes, saving water from the source, and optimizing water consumption systems. We increased the concentration times of circulating water to reduce water supplement, and strengthened steam condensate water recovery to realize 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 get lower groundwater leakage rate.

We launched an online management system for energy and water conservation, standardizing the water-saving work process, achieving fine management of water saving, and providing basis for scientific water saving and management.



### Land management principles

- ▣ Legally acquire and regulate the use of land
- ▣ Overall planning for conserved and intensive land use
- ▣ Effectively revitalize and reasonably dispose land
- ▣ Strengthen supervision and protect land rights

### In 2015

CNPC saved land

1,200  
hectares

### Land Resources

We optimized the project plane scheme design to reduce land occupation during the preparation period for oil & gas exploration and development, pipeline construction, and refining & chemical projects in accordance with the requirements of economical and intensive land use. For newly added service stations, we rationalized the layout of stations to maximize land utilization. For projects that occupy farm or forest land, and projects that affect ground attachments during pipeline construction, we actively adopted advanced technologies for land reclamation and provided reasonable compensation to relevant parties. Changqing Oilfield overcame the limitation of available land resources and promoted the application of integrated technology. By the end of 2015, it accumulatively saved more than 20,000 hectares of land.

### Energy

We gave priority to energy saving and spared no efforts to reduce energy consumption by speeding up technological innovation, implementing refining energy system optimization, and perfecting the management system. We saved energy equal to 1.16 million tons of standard coal in 2015.

### Vapor Recovery at Service Stations

Since the launch of the comprehensive service station modification for vapor recovery and treatment in 2007, we have invested RMB 4.8 billion and completed the modification work of 198 tank farms and 16,000 service stations.



### Technological innovation for conservation

Implemented 54 technological innovation projects in 2015



### Refinery energy system optimization

Developed 148 optimization schemes



### Construction of energy conservation standard system

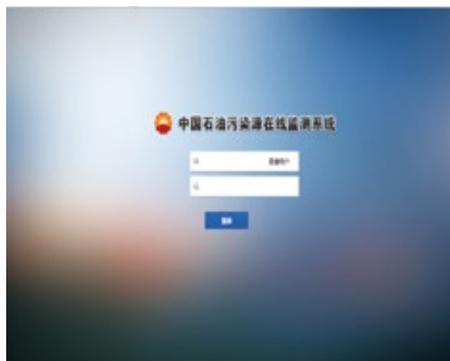
Formulated and revised six national industry standards and five corporate standards



Tarim oilfield used solar energy

## Emission Control

We strictly controlled pollutant emissions, strengthened waste management, and fully implemented the national requirements on pollutant emissions for the “12<sup>th</sup> Five-Year” period. By utilizing advanced applicable technology, we made great efforts to minimize adverse impacts on ecological environment. In 2015, 42 emission reduction projects subject to national assessment were completed and put into operation, and coal-fired units such as the Binhai power plant of Dagang Oilfield were closed, realizing “zero coal burning” in oil and gas fields and refineries in Beijing, Tianjin and Hebei.



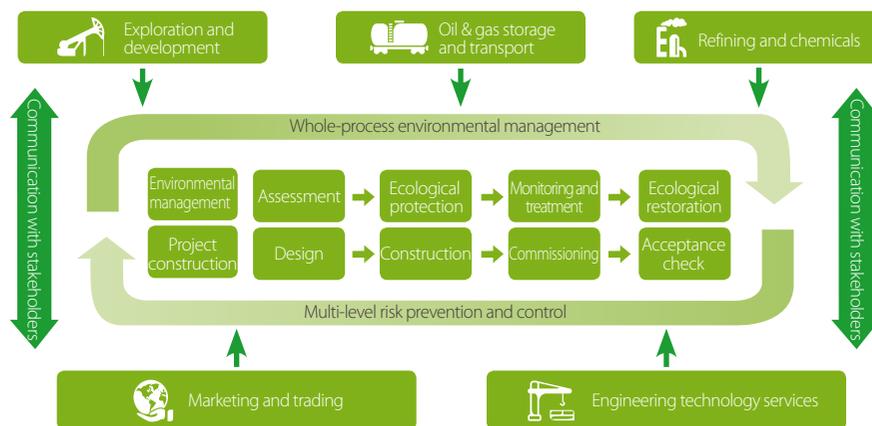
### Pollution Sources Online Monitoring System

The CNPC Pollution Sources Online Monitoring System has 45 functions divided into six modules. It can accurately monitor, calculate and analyze the emission data of each monitoring point in real time; monitor emissions from key sources regularly in real time and assess the operating results of environmental protection facilities; and collect and analyze the alarm data. By the end of 2015, 298 key monitoring points of CNPC completed data networking.

## Conservation of Biodiversity and Natural Habitats

We are devoted to reducing the potential influence on ecological environment and biodiversity during production and operation, and take full precautions to avoid environmental impact and work hard to restore the environment to its original state in case of any adverse impact. Environmental management is implemented in full life cycle throughout the industry chain. For each construction project, environmental protection facilities are designed, built and commissioned together with the main project. In 2015, we comprehensively checked and rectified environmental pollution and ecological damages, and reduced the impact on the ecological environment through noise reduction, emission reduction and other means. We endeavored to reduce the occupation of arable land, and put a lot of efforts in the conservation of soil and water and in restoring the vegetation, working hard to restore the ecological environment and protect the biodiversity of our operation areas.

### Eco-environmental Management in Full Life Cycle throughout the Industry Chain



#### Before construction

formulate detailed and feasible environmental protection plan according to conditions of the operation sites.



#### During construction

supervise and inspect the implementation of environmental protection plan and rectify problems or hidden dangers within a definite timeframe upon discovery.



#### After construction

ecological restoration.

# Climate Change

## We support

- Paris Agreement
- China's National Programme to Address Climate Change
- National Plan on Climate Change (2014-2020)

## We

- Participated in the 21st Conference of the Parties of the UNFCCC (Paris Climate Conference)
- Agreed on the goal of controlling global temperature rise below 2°C by the end of this century proposed at Paris Climate Conference
- Devoted to green and low-carbon development
- Actively shared the practice of greenhouse gas control
- Responded to the Oil & Gas Climate Initiative (OGCI)

**Q** Has CNPC participated in the Paris Climate Conference, and what actions will the Company take in support of the Paris Agreement?

**A**

CNPC has participated in the Paris Climate Conference. We introduced our low-carbon development strategy and the Company's progress in carbon capture, use and sequestration (CCUS), and development of biomass energy and unconventional resources. Such efforts were recognized by China's National Development and Reform Commission and international organizations such as the World Bank.

Climate change has become a worldwide concern. For the energy industry, conclusion of Paris Agreement indicates that the development of clean energy will be accelerated, and the global carbon assessment standard system will be established. We will reduce carbon emission according to the commitment of the Chinese Government and conduct carbon verification and report according to the international practice.

Climate change remains a most severe global challenge and requires the joint response of mankind. As an energy enterprise, we make our due contribution to reducing greenhouse gas emission through restructuring businesses, developing clean energy, improving energy efficiency, strengthening R&D of low-carbon technologies and promoting carbon sequestration, in order to achieve the global goal of holding the increase in the world average temperature to below 2 °C above pre-industrial levels.

## Carbon Emission Management

CNPC pays close attention to greenhouse gas emissions and has included addressing climate change into our company's development plan. We have begun to formulate the roadmap for low-carbon development and started to establish the carbon emission control system. Specifically, development goals, emission reduction measures and technical routes are set, with a primary focus on carbon footprint verification, carbon emission reduction and the construction of near-zero carbon emission demonstration projects. Hereby our company endeavors to strengthen greenhouse gas management and control, and mitigate carbon dioxide and other greenhouse gas emissions from the sources, production process and product application.

## Development of Low-Carbon Energy

As the advocator and practitioner of low-carbon economy, we actively develop natural gas, coal bed methane (CBM), shale gas, biomass and other low-carbon energy, produce and supply clean products, in an effort to achieve clean production of the products and consumption process (see Chapter I for details).

## Emphasis on clean energy development

In 2015, we supplied 122.6 billion cubic meters of natural gas, about 70% of total domestic gas consumption.

122.6  
bcm



## Promoting production of clean oil products

In 2015, we supplied motor gasoline and diesel of National V standard to 11 eastern provinces and cities ahead of schedule.

11  
provinces



## Carbon Emission Reduction in Production

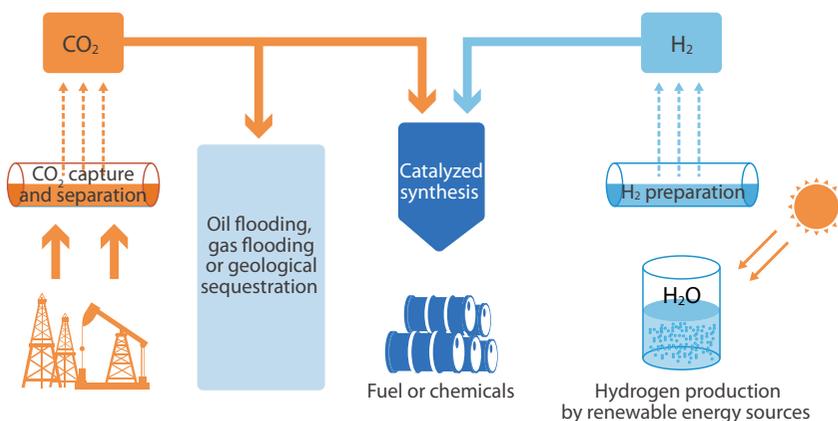
While supplying the society with clean oil products, we also pay much attention to optimizing the energy utilization structure within the Company. Compared with 2010, the proportion of our natural gas consumption in CNPC's total energy consumption increased by 7 percentage points in 2015; and raw coal consumption decreased by 4.8 percentage points. We also care about carbon emission and carbon footprint during production and operation. In Huabei Oilfield, Tarim Oilfield and other areas, we used renewable energies such as geothermal energy and solar energy to reduce carbon emissions during production.

## Low-carbon Technology

As the application of science and technology plays a significant role in controlling greenhouse gas emissions and addressing climate change, we carried out studies on carbon dioxide flooding and storage, salt water layer and oil deposit carbon sequestration potential evaluation, flue gas CO<sub>2</sub> capture at CNPC's power plants, and other key carbon reduction technologies. CNPC's "Study on Key Technologies for CO<sub>2</sub> Enhanced Oil Recovery and Carbon Dioxide Storage" project under the National 863 Program passed national acceptance check in 2015. Moreover, we established China's first CCUS base in Jilin Oilfield which covers the entire industrial chain, including carbon dioxide separation, capture and flooding, and achieved sequestration of 940,000 tons of CO<sub>2</sub>.

## Stop natural gas flaring

We enhanced the comprehensive utilization of resources. Since 2013, we have put emphasis on stopping gas flaring at the remote and isolated wells, producing test wells and gas stations and refineries. By using standardized and integrated series skid-mounted equipment, and improving our techniques, we have continuously improved recovery and utilization of associated gas at Changqing, Tarim, Southwest and other oilfields. By the end of 2015, we have accumulatively recovered 4.39 billion cubic meters of vent gas.



CNPC's CCUS road map



## VOCs management and control

We have built a unified VOC<sub>s</sub> (volatile organic compounds) management and control platform and formed technologies such as LDAR (Leak Detection and Repair) system construction, organic technology for exhaust gas recycling and management, flare system management, covered and sealed collection at wastewater treatment plant and oil and gas recovery from oil products loading.

# Products and Services

## Market-based Mechanism for Carbon Saving

We actively participate in the establishment of market-based mechanisms for carbon trading. We are the co-founder of the Tianjin Climate Exchange, the first comprehensive emission trading institution in China. In 2015, we completed the largest CCER (Chinese Certified Emissions Reduction) transaction in China, with a trading volume of 506,125 tons.

## Forestry Carbon Sequestration

We support China's carbon-sequestration forest construction and forestation activities. In 2015, we invested RMB 148.99 million in public-welfare forestation funds and planted over one million trees. In Changqing Oilfield, we joined hands with the local government to carry out the construction of Qingyang carbon-sequestration forestry base in Gansu province, and have completed over 100,000 mu of carbon sequestration forestry since 2008.

Following the principle of quality foremost and people oriented, we strengthen the quality management system and improve process quality control to create brand products. In addition, we continue to improve product, project and service quality.

<b>Quality guideline</b>	honesty and integrity, and pursuit of perfection
<b>Quality objectives</b>	zero accident, zero defect, leading at home and outstanding internationally

## Quality Control

In 2015, CNPC continued to enhance the quality management system, focusing on revising quality standards, conducting supervisions and inspections, and nurturing a culture of quality.



### Formulation and Revision of Standards

Strictly implemented mandatory standards, actively upgraded corporate standards, and participated in formulation and revision of national and industry standards

- ▣ We formulated and revised 161 corporate standards in 2015.
- ▣ Perfecting oil product quality standards: We formulated corporate standards including the internal control indexes for motor gasoline, diesel and ethanol-gasoline blending components.
- ▣ Regulating handover measurement and metering of oil products and liquid chemical products: We formulated regulations for the handover measurement and metering of oil products and for measuring liquid chemical products with mass flowmeter, and other corporate standards.
- ▣ Three international standards including the *Method of Determining Coalbed Methane Content* led by CNPC were released.



### Quality Supervision and Inspection

- ▣ We carried out supervision and spot-checks on the quality of the products we produced, sold, procured and used, as well as the quality of construction project in progress. We regularly reported quality hazards and announced quality risks of major projects, and adopted zero tolerance against unqualified products.



### Metering Infrastructure Construction

- ▣ Operational testing, construction standard assessment and construction work were completed at Chengdu, Guangzhou and Urumqi branches of the National Oil and Gas Large Flow Metering Station.



### Nurturing Quality Culture

- ▣ We carried out the Quality Month Campaign, convened 4,043 quality analysis meetings, and organized more than 8,800 quality training activities with participants of 287,000 person times.



The "High-Pressure Natural Gas Flow Standard and Value Transfer Method" was awarded the Second Prize for 2014 Science and Technology Progress by the Chinese Society for Measurement

## Product Management

We provide consumers with products according to legal provisions and industrial standards in 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.

### Measures to ensure product safety

Stage	Measures
Design	Provide safe and reliable protective equipment and products
R&D	Avoid the use of hazardous chemicals
Sales	Warn consumers about foreseeable risks in using the products

## Quality Products and Services

### Providing Quality Products

By strengthening technological innovation, we continuously promote product quality upgrading and strive to provide the society with safe, reliable, high-quality and environmentally-friendly products. CNPC's independently developed clean gasoline production technologies including DSO, M-DSO and GARDES have been successfully applied in 17 refining facilities, providing powerful technological support for the upgrading of oil products. By the end of 2015, we invested RMB 25.7 billion in 70 oil product upgrading projects. We are devoted to cultivating famous-brand products and the "heavy traffic road asphalts" by Karamay Petrochemical Company and Liaohe Petrochemical Company and the "ABS resin" by Jilin Petrochemical Company were named the distinguished brands by China Petroleum and Chemical Industry Federation.



The Development and Application of Complete-set Clean Gasoline Production Technologies Satisfying the National Phase-IV Vehicle Emission Standards project was awarded the Second-class National Science and Technology Progress Award.



### New-type aerospace kerosene for Long March 6

Long March 6 carrier rocket used the new-type aerospace kerosene developed by Karamay Petrochemical Company in its maiden flight. China Aerospace Science and Technology Corporation (CASC) sent a letter of congratulation and expressed their thanks for "the outstanding contributions to the successful launch of Long March 6" made by Karamay Petrochemical.

### In 2015, company domestic

Proportion of motor gasoline produced by domestic refineries that reaches National V standard

19.8%

Proportion of motor diesel produced by domestic refineries that reaches National V standard

8.7%

## Promoting Service Level

We pay much attention to improving service quality and providing consumers with satisfactory and efficient services. By the end of 2015, CNPC owned 20,700 service stations covering 31 provinces (municipalities and autonomous regions) and the Hong Kong SAR. "Smart Service Stations" are being constructed and popularized to provide value-added services for our consumers.



Percent of pass of oil product quality by spot check

100%

Percent of pass of petrochemical sales

100%

Consumers served at the service stations every day

11 million

## Improving Service Quality

By taking measures such as collecting consumer opinions, conducting customer satisfaction surveys and launching the "Customer Experience Day Campaign", we solicit customer opinions in a timely manner to improve service quality. According to the Chinese Customer Satisfaction Manual jointly issued by the Customer Satisfaction Measurement Center under China National Institute of Standardization and the Chinese State-owned Enterprise Research Center under Tsinghua University, the satisfaction level for our company's service stations ranked the first for the third consecutive year in 2015 in the petroleum industry of China.

## Travel with CNPC to Qinghai Lake

In September 2015, our Qinghai Marketing Company and Gansu Marketing Company jointly held a self-driving tour themed "Travel with CNPC to Qinghai Lake". More than 20 CNPC's consumers from Gansu, Shaanxi and Sichuan provinces participated in the activity. By following the drivers all the trip, we learnt more about consumers' demands and timely provided services to them.



### Drivers' comments

#### Fu Yan, leader of the motorists club

"We'd like to thank CNPC for giving us a platform to have a deeper understanding of the service stations. We measure the world with our feet, and we will follow CNPC service stations wherever they are built. Wish CNPC a better future."

#### Liu Xuetai, a senior "tour pal"

"The convenience stores have impressed me with their plentiful commodities and nice display, which draw the consumers' attention. CNPC's IC card is also quite convenient with bonus point service. Drivers can enjoy convenient and quick service here."

#### He Hui, Driver

"CNPC provides very considerate services, as we are reminded when the oil gun is made zero, and when it's time to confirm the amount of money. Upon our leaving, we'd always hear 'Have a pleasant trip', which is really heart-warming."

# Supply Chain Management

We actively promote the sustainable development of industrial chain, encourage our partners to jointly fulfill our social responsibilities, and provide the society with high-quality products and services in a respectful, communicative, honest and cooperative manner.

We have established the contractor management leading group headed by CNPC's top executive and attended by heads of related departments and specialized subsidiaries. Through open tenders, a unified supplier base and online transaction, we provide suppliers with equal opportunities and implement "open business, controlled processes, whole-process documentation, and permanently traceable records" to ensure the quality of the procured products and services. We have also established a complete supplier quality management mechanism which covers quality approval, inspection, supervision and spot-checking, and on-site supervision of the manufacturing of major products. Through the application of information technology and internet, we implemented targeted and comprehensive supervision and inspection to minimize dishonest behaviors. Moreover, at various stages such as the supplier admission, supplier assessment, strategic supplier development, materials and service procurement, tender invitations and tender evaluations, we make clear supplier requirements in terms of business ethics, human rights, HSE, quality standards and public responsibility, so as to build a responsible supply chain in the petrochemical industry.

## Supplier Management Principles, Systems and Mechanisms

<b>Management principles</b>	Open and voluntary, competition and selection; small quantity but high quality, mutual benefits and win-win; dynamic management and resource sharing
<b>Management mechanism</b>	Unified management; layered responsibility; authorized procurement; separation of supervision and execution
<b>Operating mechanism</b>	Operating mechanism: centralized procurement, separate operation, joint participation and effective supervision

## Management Measures

Centralized and two-level management	System construction	Strict access and dynamic management	Unified resource sharing base
<ul style="list-style-type: none"> <li>□ The headquarters is responsible for managing of material suppliers within the Class-I materials directory.</li> <li>□ The procurement departments of affiliates are in charge of managing the rest.</li> </ul>	<ul style="list-style-type: none"> <li>□ Build a supplier management system framework to regulate supplier evaluation, graded and classified supplier management, and supplier examination.</li> <li>□ The formulation of <i>Supplier Management Measures</i> and other regulations.</li> </ul>	<ul style="list-style-type: none"> <li>□ Establish performance appraisal system, and implement "survival of the fittest" and dynamic management to weed out unqualified suppliers.</li> </ul>	<ul style="list-style-type: none"> <li>□ Apply procurement management information system, to realize supplier resource sharing and computer-based whole-process management.</li> </ul>

Annual procurement expenditure of CNPC in 2015

130 billion RMB

Number of suppliers of CNPC in 2015

25,000 suppliers

# 3

## Employee Development

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- Employees' Rights and Interests
- Development Platform
- Localization and Diversification
- Physical and Psychological Health
- Caring for Employees

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.

# Employees' Rights and Interests

Strictly complying with international conventions on labor and human rights, we respect and protect employees' legal rights and interests, and advocate the employment policy based on equality and non-discrimination. We continue to perfect the compensation and benefits system, and improve democratic mechanisms, so as to create a fair and harmonious working environment for 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, regulations of the host countries. We promote the employment policies of equality and non-discrimination, 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. As of the end of 2015, the Company had 61 female senior executives and 2,138 female middle-level managers.

## 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 processes for the workers' congress, and highlighted the key disclosure contents. 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, vote and supervise, and encourage them to offer advice and suggestions for the enterprise development.

## Compensation and Incentives

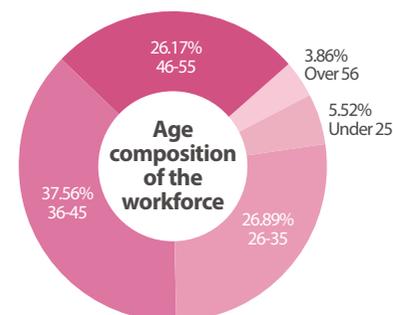
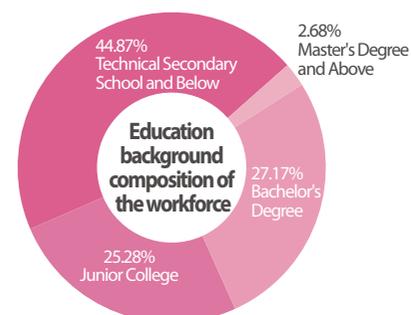
We effectively carry forward the compensation and benefits system reform to strengthen the benefit orientation and enhance the mechanism to link payroll with performance. The compensation and benefits system highlights the post contribution and is tailored to the different roles of employees. Additionally, we pay special attention to staff in grassroots units and talents in key positions working in harsh environments in terms of remuneration, and fully embodies the employees' self-value.

## Gender composition of the workforce by the end of 2015



## Proportion of minority nationalities employees in the workforce

6.19%



# Development Platform

We believe that the Company's development is underpinned by our employees' growth. We endeavor to inspire employees' creativity and help them fulfill their personal value through staff training, career promotion and an improved incentive mechanism.

## Education and Training

Based on the modern enterprise training concept, we continuously improve the construction of our training bases and network, and provide training for all employees through knowledge training, professional training, post training, off-job training and spare-time training, and make great efforts to realize the positive interaction between employee growth and company development. In 2015, more than RMB 1.594 billion training funds were invested, and 1,142,500 employees participated in various trainings.

On the basis of promoting all-staff training, we carry out the "four training projects" for the managerial personnel, technical experts, skilled personnel and internationalized talents. In 2015,

we selected a batch of outstanding managerial personnel and professional technical backbones to attend training in language, international business, business administration, law, etc., in well-known universities and training institutions at home and abroad, in order to cultivate their international perspective and international operational capability, and promote their comprehensive and healthy growth.

We improve the employees' occupational skills and abilities through training and competition. In 2015, we held a refining and chemical vocational skill competition, revealing a number of highly-skilled talents. Besides, we encourage the employees to take part in the national and world-class skill competitions. In 2015, we participated in the first national competition for hazardous chemical incidents rescue skills, the second national petroleum and petrochemical system "CNOOC Cup" vocational skill competition, the twelfth engineering construction system competition, and the seventh petroleum and chemical vocational skill competition, and we all obtained excellent results.

### Training program 2015

Training projects implemented by headquarters **163**

Employees trained by headquarters **20,000**  
person-times

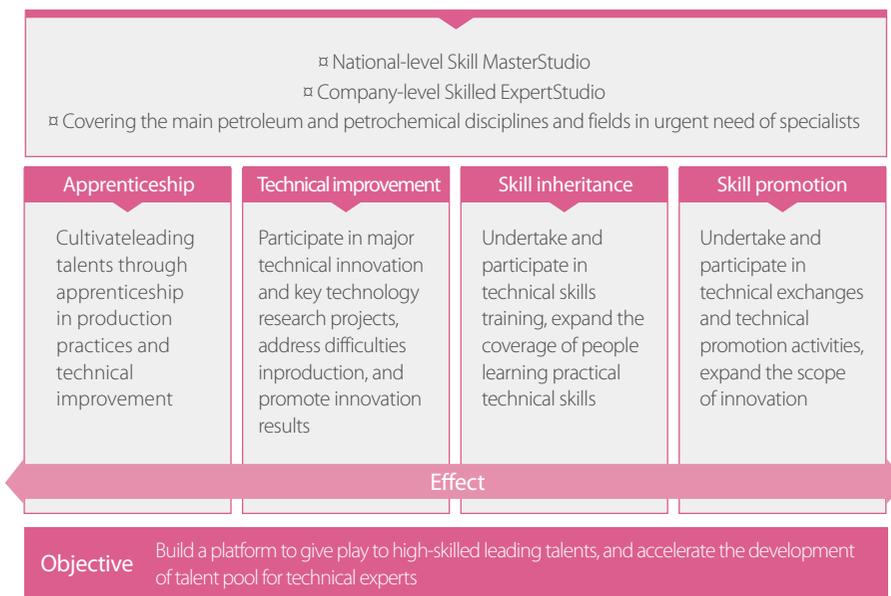
The training rate of senior skilled personnel and key operation post employees **100%**



## Career Development

We attach great importance to career planning, and endeavor to expand the career development space for the employees to realize their self-value. In 2015, we carried forward the reform of the “double sequences” system for managerial and technical personnel in our subordinate research institutes and oilfield companies, and provided an independent, continuing and stable career path for the technical professionals. To help the technical experts bring their expertise into full play, we set up the skill inheritance network led by the national skill master studios and demonstrated by the company’s skill expert studios. As of the end of 2015, we had accumulatively established 54 skill expert studios, including 13 national skill master studios.

### CNPC Skilled Expert Studio Program



### By the end of 2015, company

Academicians (including Chinese Academy of Sciences & Chinese Academy of Engineering)

19

Experts entitled to government special allowances

1,496

Senior technical experts

437

Skill experts

352

## Rewards and Incentives

We reward and motivate the employees through different means. Model workers, advanced workers, technical experts and academic leaders are selected and awarded at the spiritual and material levels. We attach great importance to the career development of technical staff, and select young researchers to undertake national and CNPC-level R&D programs based on their achievements in domestic and overseas key projects and research bases. In 2015, 20 of our employees were granted the Youth Science and Technology Awards from the Sun Yueqi Science and Technology Education Fund.



### How does the Company formulate the remuneration of "double sequences" professionals?

For the development of technical professionals, we explore to establish a fair, rational and standardized performance compensation system being oriented to the labor market and based on job evaluation and performance appraisal, and comprehensively reflecting the post value, level of ability, and job performance. Primarily, the remuneration is composed of post salary, subsidies and allowances, and performance wage.



Rewards and Incentives

### Number of employees and Collectives Granted National Awards in 2015

National Model Worker	45
National March 8 <sup>th</sup> Red-banner Pacesetter	1
National Female Civilized Post	5
National Model for Female Achievement	1
National Collective for Female Achievement	1

# Localization and Diversification

## Overseas Employee Training Center



We initiate a respectful, open and inclusive culture, and are committed to the localization, professionalization and marketization of overseas talent. We constantly improve the employee cultivation mechanism and endeavor to promote employee localization and talent internalization. By the end of 2015, the localization rate of our overseas employees reached 85%.

## Local Hiring

We continuously improve the localization of our workforce, attach great importance to attracting and retaining excellent local talents, enhance the local employee training, and increase the proportion of local employees in important technical and management posts. Brion Energy recruits local professional technicians and management talents, and fully implements international management. By the end of 2015, the employee localization ratio reached 94.5%. Besides, the Company carries out exchange activities for the international employees, and organizes outstanding local employees to visit CNPC's subordinate oil and gas field companies in China for studies and business exchanges. In 2015, 10 excellent employees of the Nile Project in Sudan were invited to pay a visit to the headquarters, Daqing Oilfield, and China Petroleum Pipeline Bureau (CPP), to know more

about CNPC and experience Chinese culture. In addition, the company trained 3,000 employees for the host country in 2015.

Our employee localization policy not only enables the local employees play a more important role in the Company's development, but also helps to build a talent pool for the sustainable development of local petroleum industry.

## Respect for Cultural Differences

We respect the 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. In 2015, the Company held outward development training for Chinese and foreign employees in the Americas to improve the mutual recognition and understanding. In the Al-Ahdab Project in Iraq, we respect the local customs, and made reasonable work-time arrangement for local staff during the month of Ramadan, and celebrated with them after Ramadan.



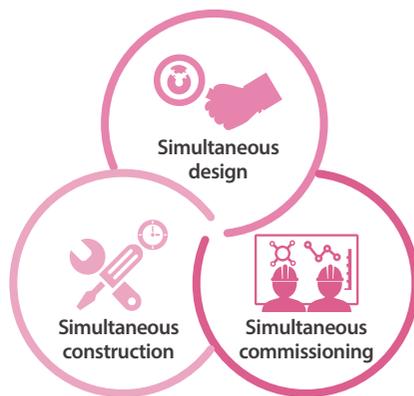
**In Dar es Salaam, Capital of Tanzania, we provided one-month training on pipeline operation skills for the local employees, covering technological process management of pipeline and station, pipeline maintenance and the like. Mwanga, a trainee, is carefully taking learning notes in class.**

# Physical and Psychological Health

## Issued

*The Regulations for Provisions on Occupational Hazard Informing and Warning Management of CNPC*

### Three Simultaneities



### In January 2015

CNPC won the excellent enterprise award in the national contest for occupational disease prevention and treatment, and 12 subordinate enterprises, including Daqing Oilfield, also won awards.

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

### Occupational Health

We provide the same health and labor protection for temporary employees, contract employees and contractor's employees. We have carried out research on occupational health management, consolidated the health management of production frontlines, especially at the field construction sites, and enhanced the risk prevention and control of occupational disease hazards and health monitoring. Additionally, we investigate the occupational history of employees exposed to toxic and harmful gas and employees transferred to other posts, improve the employee occupational health monitoring archives, and guarantee the employees' safety and health. In 2015, occupational health monitoring was provided to all employees, and the occupational health examination rate was 98%; the workplace occupational health conditions were continuously improved, 74,000 workplace occupational disease hazards were detected, and the comprehensive detection rate of occupational hazards was 98%; the

establishment rate of employee occupational health monitoring archives was 100%.

### Mental Health

We implement the Employee Assistance Program (EAP), set up a hotline and a website for psychological counseling, and carry out various forms of training on mental health knowledge, in order to guide the employees to build a positive and healthy mindset. In 2015, we continuously improved the employee vacation systems, implemented EAP overseas, and constantly boosted the mental health of our employees. By the end of 2015, several thousands of overseas employees received online counseling services. In addition, we employed counselors to deliver lectures on cultivating a healthy mind and other psychological knowledge for frontline employees working in saline wastelands, deserts and other harsh natural environments, in order to help them release stress and live a healthy and happy life.



EAP has effectively promoted the organization system regulation and overseas employee management regulation. A number of indicators affecting the mental health of overseas employees have improved significantly. For example, the proportion of the highest-risk item "suicide attempt" dropped from 4.9% to 1.1% after intervention.

— Zhang Jie, General Manager of the consulting company which has provided EAP services to the Company for eight consecutive years



### Content of occupational health archives

Basic profile of occupational health archives

"Three simultaneities" archives of occupational health of construction projects

Occupational health management archives

Occupational health publicity and training archives

Occupational disease hazard monitoring and detection evaluation archives

Occupational health monitoring management archives of subsidiaries

Individual occupational health monitoring archives

# 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 push forward the market-oriented reforms on service of staff communities and improve the poverty alleviation and aid mechanism, in order to improve the employees' life quality.

## Staff Community Management

Our staff communities are located in more than a dozen provinces (municipalities and autonomous regions). There are four million residents of 1.31 million households living in a total of 1,126 residential blocks. We give play to our own advantages and make full use of social resources to promote social governance in the staff community and improve the living conditions of employees.

We actively establish a comprehensive service system, integrating community service, governmental public service, social professional service, and resident volunteer service, in order to better serve the employees and their families. We constantly improve the social governance of the staff communities, and implement governmental social benefit policies in housing, medical care, employment, pension, assistance for those in difficulty, and service for the disabled. We have accumulatively helped more than 300,000 residents gain access to medical insurance, more than 140,000 residents to social insurance, and more than 100,000 people-times to enjoy social assistance and social welfare. In addition, we have introduced local governmental and social institutions to set up day care centers and

pension institutions in our community to provide pension service for retirees.

## Helping Employees

The Company 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 2015, we helped 110,000 person-times via campaigns such as "donating tuition fees for the new semester", "one-on-one assistance", and "hand-in-hand activity".

## Recreational Activities

In 2015, we organized more than 20 kinds of activities, such as sports meetings for Chinese and foreign employees, fitness walking competitions, basketball finals, ping-pong games, and tug-of-war championships, in order to enrich the spare-time life of the employees. In Abu Dhabi, Capital of the United Arab Emirates, we took part in the first sports festival of Chinese enterprises, and promoted the physical and psychological health of the employees and enhanced the team cohesion.

### Scope of support



#### Community living support

Providing necessary support for the aged, the weak, the sick and the disabled.



#### Medical help

Providing medical subsidy for the employees impoverished by serious disease.



#### Educational assistance

Providing subsidy for employees in difficulty to help their children receive the national compulsory education.



#### Other support

Providing help for employees impoverished by accidents or disasters occurring to themselves or their family members.

## Parent-Child Summer Camp

CNPC affiliate China National Oil and Gas Exploration and Development Corporation (CNODC) has been holding the parent-child summer camp activity for the overseas employees for six consecutive years. Family members become closer after participating in the special teaching and various games,

and have better understanding of each other through the family times spent such as the family parties. So far, 845 employees and their family members from 223 families working overseas have participated in the parent-child summer camp activity.

# 4

## Public Welfare

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- Poverty alleviation
- Supporting education
- Local development
- Fostering Civilized Values
- Construction of overseas communities

We are committed to sharing our business achievements and development opportunities with local communities where we operate in the pursuit of mutually beneficial sustainable development. To this end, we attach great importance to activities promoting public welfare and social progress, in order to facilitate community and socioeconomic development.

# Poverty Alleviation



**In recognition of our outstanding contribution to charity and poverty alleviation, CNPC was named the "Most Charitable Enterprise" at the ninth China Charity Awards by the Ministry of Civil Affairs of China in 2015.**

Poverty alleviation is an important topic in global sustainable development and also one of our key concerns. We have responded positively to the initiatives of the UN's 2030 Agenda for Sustainable Development, and to policies of the Chinese Government on poverty alleviation. Focusing on improving the intellectual level, industrial development and livelihood of local people, we integrate our business strengths with local resources and market advantages, and promote the local self-development capacity through skill training, and supply chain extension. In 2015, we continued to implement over 20 projects, including infrastructure reconstruction, education & training, and healthcare in over 20 provinces (municipalities and autonomous regions) in China, including Xinjiang, Tibet, Qinghai, Henan, and Jiangxi, benefiting more than 100 million people.

We have sought to introduce the concepts of internet marketing and the urban-rural sharing

economy to areas with mature conditions, in order to help foster the development of local industries. In the areas with abundant natural resources but lacking marketing channels and expertise, we worked with the China Foundation for Poverty Alleviation to provide E-commerce training in Fanxian County of Henan Province, Xishui County of Guizhou Province, Hengfeng County of Jiangxi Province and other places, in order to improve their understanding and execution capabilities in E-commerce. In Xishui County and Hengfeng County, we cooperated with e-commerce companies to launch internet projects, and promoted the local business development. In Xinjiang Uygur Autonomous Region, we offered training to people in charge of the local tourism industry in Tacheng, Bayingol, Turpan and the Second Farm Division of the Xinjiang Production and Construction Corps, to promote poverty alleviation by tourism.

## Targeted poverty alleviation

We provided technical training for 120 farmers and herdsmen in six poverty-stricken counties, improving the locals' self-development capacity.

# 120

**Xinjiang**

We assisted the construction of safe drinking water projects in seven villages, benefiting 6,672 people of 1,396 households.

# 6,672

**Henan**

We rebuilt roads for nearly 3,000 local people in Xishui County.

# 3,000

**Guizhou**

We assisted the construction of bridge and safe drinking water projects in Hengfeng County, facilitating 2,000 villagers' access to transportation and 5,000 people's access to drinking water.

# 5,000

**Jiangxi**

## Aid programs

We assisted the construction of five projects, including the primary school beautification and lightening project in Shuanghu County.

# 5

**Tibet**

We rebuilt roads for about 6,000 local people.

# 6,000

**Chongqing**

The 10,000mu Water Conservation Ecological Demonstration Forest Project in Changting was named the "Best Case of Social Responsibility Practice of Large State-owned Enterprise of 2014" by China Youth Daily.

# Best Case

**Fujian**

# Supporting Education

Education changes life and we are willing to promote such changes. CNPC is dedicated to supporting education, as "giving children a good education is an important task in poverty relief, and also a crucial means to stop poverty being passed on between generations." We invest in domestic education, through providing scholarships and subsidies, and funding the construction of primary schools, etc. In 2015, we granted RMB 3.99 million through the CNPC Scholarships to 635 students from 13 colleges and universities in China. From 2011 to 2015, the CNPC Scholarship has helped 3,175 undergraduates and graduates in 13 colleges and universities. The total granted scholarships have amounted to RMB 19.95 million.

## CNPC's Xuhang Program for Educational Support

Since senior high school education is not compulsory in China and senior high school students are not eligible to national bursaries (which are mainly earmarked for poor students from undergraduate colleges/universities and higher vocational schools), some senior high school students in underdeveloped areas are still burdened with heavy education costs. In 2015, CNPC and CFPA co-sponsored the "Xuhang" Program to help high school students from poor families complete their studies.

The Xuhang Program is a public welfare project co-sponsored by CNPC and China Foundation for Poverty Alleviation (CFPA), to help senior high school students from poor families complete their studies. CNPC makes use of its service stations to support the program. For every liter of gasoline refueled by its customers, the Company would donate RMB 0.01 to the project through the CFPA. By the end of 2015, Xuhang Program was launched at 50 service stations in Zhengzhou of Henan Province and Chengdu of Sichuan Province, and a total of one million person times participated in the charitable activity.

### CNPC Scholarship (2011-2015)

Sponsored 13 colleges and universities

13

The total granted scholarships have amounted to RMB 19.95 million.

RMB  
19.95  
million



### Who are the beneficiaries of the Xuhang Program?

The program targets senior high school students from poor families, especially those from the poverty-stricken areas. In the senior high schools covered by the Xuhang Program, students may make an application personally, and obtain CNPC's bursary after going through a four-level review by the school, village, county and CFPA respectively.

### How does the Xuhang Program help students?

Financial Aid	Support Group	Counseling
Students in need normally receive financial aid of RMB 2,000 per year for their studies at school, and one-off financial aid of RMB 5,000 would normally be given to students in need who are admitted to colleges and universities.	CNPC helps set up support groups for aid-receiving students, which enable them to help each other, and fully develop their respective strengths in management, learning and daily life, etc.	CNPC organizes various comprehensive and interactive activities to lighten the psychological burden on students: to help them accumulate knowledge and broaden their horizons, all in a relaxing atmosphere.

### What are the effects of the Xuhang Program?

The first batch of bursary funds worth RMB 200,000 from the Xuhang Program has been given to 200 students in their third year at four high schools: Bazhong Tongjiang High School and Aba Prefecture Xiaojin High School in Sichuan, and Zhumadian Shangcai No. 1 High School and Xinyang Xinxian High School in Henan. Among them, 145 students (72.5%) scored results higher than the college admission requirements in the 2015 College Entrance Examination.



### Voice from the program stakeholders:

My mother is sick, my father works outside all year long, and my brother is studying at university. At the key moment of my schooling, CNPC's Xuhang Program lent a helping hand. I would like to express my gratitude to CNPC and the community for their kind support. It has rekindled my passion for life and my hopes for further studies. With the help of the program, I finished high school education and was admitted to China Youth University of Political Studies in 2015. University is my new starting point. I will study hard and continue to spread the benevolence.

—Xinyang Xinxian High School  
in Henan Province  
Liu, a graduate

Since my family couldn't afford my school fees when I was a child, helping poor students has always been my dream. The Xuhang Program gives me an opportunity to help others, and I fully support it.

—a regular customer  
at CNPC service station  
Mr. Xu

My hometown is Zhumadian in Henan province where the economy is not well developed. However, there are many children eager to learn and they do well at school. Previously I provided financial support to a high school student until he graduated from college. The donation program launched at CNPC's service stations can help more poor students to complete their studies. I lend my full support to it and will be actively involved in it.

—the owner of Zhengzhou  
Zotye Auto 4S Store  
Mr. Xie

# Local Development

Our development is inseparable from the support of the government, communities and the general public. In turn, we aim to serve as a driving force for local socioeconomic development, based on the principle of “open cooperation for mutual benefit”, and promote the industrial development, optimize industrial structure, and increase job opportunities where we operate. In 2015, we expanded our joint-venture cooperation with state-owned capital, social capital and foreign capital in the upstream, midstream and downstream sectors. Through project operation, we supported the local development, created jobs, drove the development of related industries, and promoted the local economic prosperity.

## Refining and chemicals

Established Karamay Petrochemical Co., Ltd. with Xinjiang Investment and Development (Group) Co., Ltd.

## Pipeline construction

Established Fujian Natural Gas Pipeline Network Co., Ltd. with Fujian Energy Group Co., Ltd.

## Marketing

Overall joint-venture cooperation of Xinjiang Marketing Company is in progress.

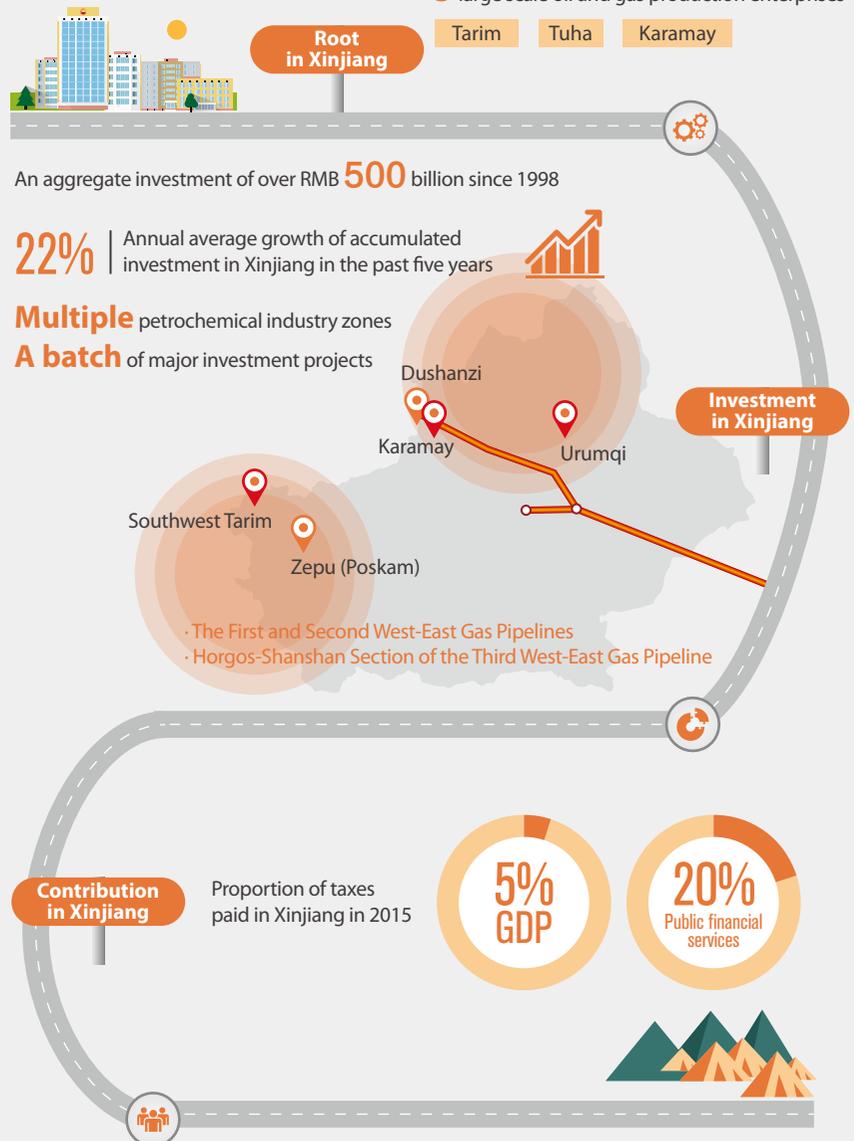
## Oil and gas cooperation

Established a JV company with Aksu Pengda Company to jointly develop the oil and gas resources in the western part of Tazhong.

## CNPC in Xinjiang

2015 marks the 60<sup>th</sup> anniversary for the discovery of Xinjiang Oilfield. In the past 60 years, CNPC has built a complete petroleum industry chain, consisting of exploration & development, refining & chemicals, storage and transportation, marketing and trade, engineering technology, and financial service. Converting the local resource advantages into economic advantages, CNPC has helped Xinjiang become a major energy supply and guarantee base in western China.

**12** subordinate enterprises in Xinjiang  
**3** large scale oil and gas production enterprises  
Tarim Tuha Karamay



# Fostering Civilized Values

In CNPC, we attach great importance to public welfare and encourage our employees to take part in volunteer activities. We advocate civilized practices, assist the disadvantaged groups, and contribute to cultural progress.

## Staff Voluntary Activities

We advocate volunteerism, and encourage and support the employees' participation in volunteer activities to serve the community and the society. In 2015, we had over 184,700 young volunteers in 6,862 teams, benefiting about 1.7 million people. Specifically, our employees were actively committed to various activities including donating to the disadvantaged groups, donating blood without payment, afforestation, rescue of wild animals and plants, and protection of natural and cultural heritages.

## Selecting National Hero Drivers

In 2015, upholding heroic behavior and advocating social justice, the 12<sup>th</sup> "Kunlun Lubricant Award" was held jointly by CNPC and the China Foundation for Justice and Courage to award 57 heroic drivers in China, among whom 10 were named "China's Top 10 Heroic Drivers".

## Helping Migrant Workers on Their Way Home

On the eve of the Spring Festival in 2016, it was the fifth consecutive year for us to provide free food and gasoline at the Company's service stations at the national and inter-provincial highways for migrant workers who had to ride motorcycles home as train tickets are hard to buy just before the Spring Festival. The volunteer service has been extended to 62 service stations in four provinces including Fujian, Jiangxin, Hunan and Hubei, serving over 100,000 person times in total. In recognition of our unwavering efforts, we were presented the gold award in the Contest of the Second Chinese Volunteer Service Project held by the Ministry of Civil Affairs and other institutions, and the Best Corporate Social Responsibility Practice of Large State-owned Enterprises in 2014 by China Youth Daily.

## Visiting Veterans of the Anti-Japanese War



2015 is the 70<sup>th</sup> anniversary of China's victory in the Anti-Japanese War and the world's victory over Fascism. The veterans are well respected in China as they fought for national independence with their life at the most critical moments in the war. Now with seven decades passing by, it is very necessary for us to look back on the history and preserve the past for the future.

Since April 2015, young volunteers of CNPC Fujian Marketing Company had spent three months driving 7,500 km, to visit 105 veterans living in Fujian Province. On behalf of CNPC, they paid respect to the national heroes, and collected images, recordings, photos and written materials of the veterans, so that such history will be revealed for generations to come.

# Construction of Overseas Communities

CNPC strives to become an excellent corporate citizen wherever we operate, and endeavors to promote the prosperity of local communities by becoming a part of the local strength for social and economic development.

## Management of Business Impact on Community

	Potential Positive Impacts	Potential Negative Impacts
 <p><b>Indigenous people</b></p>	<ul style="list-style-type: none"> <li>▫ Job opportunity</li> </ul>	<ul style="list-style-type: none"> <li>▫ Land requisition, resettlement</li> <li>▫ Environmental impact</li> </ul>
 <p><b>Capability building of local enterprise and industry</b></p>	<ul style="list-style-type: none"> <li>▫ Business cooperation opportunity</li> <li>▫ Capacity improvement</li> <li>▫ Technology transfer</li> </ul>	<ul style="list-style-type: none"> <li>▫ Possibly neglect local products and services, and lack of sharing of advanced technology with the locals</li> </ul>
 <p><b>Community consulting and participation</b></p>	<ul style="list-style-type: none"> <li>▫ The local residents have fair opportunities to express their concerns and know the impacts of the project</li> </ul>	<ul style="list-style-type: none"> <li>▫ Possibly neglect of concerns of the local people</li> </ul>
 <p><b>Social investment</b></p>	<ul style="list-style-type: none"> <li>▫ Preliminary negotiation with the community members helps meet the locals' requirements and bring long-term benefits</li> </ul>	<ul style="list-style-type: none"> <li>▫ Planning and execution of the social investment may not be practical and may not bring long-term benefits</li> </ul>

## Management of Business Impact on Community

We endeavor to contribute to the development of local communities through responsible operations, aiming to create jobs, make tax payments, and cooperate with local suppliers. Furthermore, we strive to reduce our business impact on local environment and society, and protect the rights and interests of the local residents.

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### Measures to Reduce Potential Risks

- ⌘ 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, culture heritage, involuntary resettlement, etc, and try our best to protect all the lawful rights and interests of the indigenous people.
  - ⌘ In Myanmar, we protect the reasonable interests of local residents by soliciting their opinions, and stick to standard operation for land compensation. The compensation program was formulated based on the opinions of the local government, our cooperating partners and the villagers, and compensation was made before land use. At the same time, the land compensation information was released timely to guarantee transparency.
  - ⌘ In the Andes Project in South America, we implement strict safety and environmental protection procedures, and establish the environmental protection management system with stakeholders' participation. We carry out whole-process environmental impact monitoring, and restore the ground surface in the shortest possible time after operation, in order to minimize the influence of our operation on the local ecology.
  - ⌘ On Madaya Island in Myanmar, we preferentially recruit the indigenous people, and help them receive skill trainings, participate in the project construction and operation, and enjoy higher incomes.
- 
- ⌘ Giving priority to local products and services in our procurement, we strengthen cooperation with local enterprises in technical services, in order to boost the development of local SMEs. In Canada, we signed 16 contracts involving environmental protection, public facility maintenance and the like with the local suppliers in 2015.
  - ⌘ We support the personnel training program for the oil industry of the host countries. In Sudan, we provided training for the Ministry of Petroleum, local oil companies and petroleum colleges and universities, and the trainees have grown to be key technical and managerial staff in their relevant fields.
- 
- ⌘ We have set up coordination departments for environmental protection and community relations in overseas projects, so as to promote communication with local governments, NGOs, and community representatives, by holding conferences, issuing reports and paying visits, etc.
  - ⌘ In Iraq, we have established the Community Contribution Committee for Al-Ahdab Oilfield Communities. We provide assistance of public welfare to community residents through the committee, and supervise the implementation of such welfare projects.
  - ⌘ In the Andes Project in South America, we have established the joint mechanism (joint committees with the local government, local communities and employees respectively), in order to enhance communication with the stakeholders.
- 
- ⌘ We make social investment plans based on the local social and economic development planning and requirement of the community residents in the host countries.
  - ⌘ In 2015, we launched the community resource assessment project in Chad, and built 24 water wells providing 22,113 residents in 21 nearby villages with drinking water.
-

## Promoting Community Development in Canada

Brion Energy is our operating company in Canada. Since the startup of its oil sand projects in Canada, the company has been paying close attention to community communication and community participation, in an effort to promote the sustainable local development. In 2015, Brion Energy has accumulatively invested about CAD 327,000 in public welfare undertakings.

**Strengthen information disclosure and community communication.** Brion Energy makes great efforts to establish harmonious community relationships through communication with the local government and communities. Before entering the community, the company has established a communication mechanism for information disclosure, community dialogue and participation agreement. After entering the community, the company regularly communicates with the community to clear up the doubts and possible negative effects of the projects.

**Promote business development and boost local economy.** Brion Energy is dedicated to the local economic development. In 2015, it continued to provide jobs to the local people, and supported the locals to develop their own business. So far, Brion Energy has signed 16 contracts with local suppliers. In addition, it supports the establishment of new projects to help the community improve its self-development capacity. In 2015, Brion invested about CAD 21,000 in the community building.

**Participate in community development and protect local culture.** In addition to supporting local economic development, Brion Energy endeavors to protect the local cultural heritage, and participates in public welfare undertakings such as supporting the development of the aged and the young. In 2015, the company participated in a cultural seminar with the First Nation in Mikisew CREE, and deepened the understanding of traditional culture and way of life. Specifically, its employees learned the traditional land cultivation methods and the history of Moose Lake from the aged of the Fort McKay community, and understood more about the local people.

**Support capability cultivation and improve local livelihood.** In 2015, Brion Energy invested about CAD 83,000 to improve the living environment for the First Nation around the McKay River and the Dover Oil Sand Project. For example, the company supported the development of potential labor markets and provided skill trainings for the First Nation. In addition, it care about the local educational undertakings. In 2015, the company cooperated with University of Alberta and University of Calgary, and provided about CAD 222,000 to subsidize five long-term R&D projects.

## Communication with Local Communities

Full coverage	▣ From community leaders to community members
Various forms	▣ Chief meeting + Leadership committee meeting + Community consulting group meeting + Environment meeting
Flexible approaches	▣ Formal consultation + Informal interview

**First Proposal on First Nation Community Development**

**Partners:** Keyano college and Fort Chipewyan  
**Proposal content:** Providing skill trainings and employment guidance  
**Proposal effect:** 12 students become welders



Communicating with local residents about public welfare projects

## Promote Local Economic Development

We preferentially purchase and use the local products and services, provide the opportunities for the local contractors and service providers to participate in our projects, and support the development of local SMEs and start-up businesses. In Kazakhstan, a local company's number of employees grew by seven times during the past decade of serving AktobeMunaiGas, and has grown into a modern company with nine fully-equipped geological teams.



### Tax Payment According to Law

CNPC strictly complies with the laws and regulations in the countries where it operates, makes lawful and transparent tax payments to local governments, and makes due contributions to the local economic development. In countries where the EITI (Extractive Industries Transparency Initiative) standard is implemented, such as Iraq, Chad, Kazakhstan, and Mongolia, our local companies actively participate in the multi-stakeholder groups and publish information of our projects and tax payments, as required by EITI with the content beyond EITI's minimum disclosure requirements. In Iraq, we joined EITI stakeholder group meetings, and we were elected into Iraq's EITI Committee together with Shell, ExxonMobil, etc., with participating in the improvement of the EITI report outline. In Mongolia, we also joined the EITI national committee and working group, and funded local education and environmental protection programs.



Charitable donation



## Public Welfare Undertakings

In support of the local educational undertakings, we keep improving the educational facilities and creating education opportunities, especially for the disadvantaged groups and special groups. In 2015, we assisted construction of four schools with our partners near Block 6 in Sudan, and provided a complete set of furniture and teaching devices, further alleviating the local shortage of teaching facilities. In addition, we donated 15,000 textbooks to the primary schools of seven villages, including Palioch of the Upper Nile State near Block 3/7 in South Sudan, in order to improve the local teaching conditions.

We make reasonable plans on our community development, and actively participate in the disaster relief and other charitable donations. We make investment to improve local healthcare facilities and infrastructures, help to provide better medical health conditions in various forms, and improve the life quality of local residents. In 2015, with our partners, we provided gratuitous treatment and free medicine in Joddah, Abu Ramad and Jabalain in White Nile State of Sudan, benefiting 6,245 people. The locals called the activity a "mobile Noah's Ark". Besides, we assisted the construction of two drinking water treatment plants in Ahal Province, Turkmenistan, which has improved the water quality and health of local residents.



**In order to raise the security awareness of the Halfaya community in Iraq, together with Missan Oil Company, we carried out a three-month security education activity for the students of seven schools in eight villages around the Halfaya oilfield.**



**In 2015, in cooperation with Confucius Institute of University of Khartoum (CIUK) of Sudan, CNPCI (Nile) sponsored the establishment of "CNPC Library" of CIUK, and donated 4,000 books and education supplies. This has brought positive social effects in Sudan and increased the cultural interaction between China and Sudan.**

## Awards in Overseas Communities in 2015

### Oman project company was named the “Outstanding Company for Social Responsibility” in Oman

The Oman project company vigorously protects the environment, promotes local employment and carries out public welfare activities. In 2015, it was granted “2014 Outstanding Company for Social Responsibility Award”. The company has strengthened the management of hazardous chemicals, hydrogen sulfide and contaminants, and reduces exhaust gas emissions, solid waste and wastewater discharge, in strict accordance with local laws and international practices. Its recycling rate of industrial wastewater has reached 98% and industrial solid waste recycling and bio-safety treatment rates have reached 100%. The company strengthens local employment and training to create more job opportunities for local people. Over 92% of employees of the company are local hires. Moreover, the company actively participates in social welfare activities in order to improve the quality of life of local residents, by offering grants to excellent students of local petroleum and engineering colleges, improving local infrastructure such as housing, roads, transportation, medical treatment, sports and education, and assisting the poor students and people suffering from serious diseases such as cancer.



### AktobeMunaiGas was granted “2015 Presidential Award for Corporate Responsibility” in Kazakhstan

AktobeMunaiGas attaches great importance to the fulfillment of its social responsibilities. The company has designed and set up a 2 bcm/a gas processing plant according to the actual situations of oil and gas fields. It has greatly improved the utilization of oilfield associated gas and gas cap gas, and guaranteed the gas supply to residents of Aktobe Province and southern Kazakhstan, making it an excellent enterprise in the utilization of natural gas in Kazakhstan.



### PetroChina (Indonesia) was granted two safety management awards by the Indonesian Ministry of Energy And Mineral Resources

PetroChina International (Indonesia) has put safety and environmental protection the highest priority ever since it entered the Indonesian oil and gas market. The company strictly complies with the relevant laws and regulations of the local government, executes high safety and environmental protection standards, the contractor safety management system (CSMS), and operation standards and processes that meet safety and environmental protection requirements. By doing so, it strives to eliminate hidden hazards in oil and gas production, minimize the environmental impact caused by operations, and protect the local ecological environment by joining forces with employees, contractors and the local community.



### Mangystau Project was granted an award by the local provincial government

On January 12, 2016, Mr. Alik Aidarbaev, Mangystau Oblast Governor of Kazakhstan, issued the certificate of honor to Mr. Sun Xingyun, President of the MMG Project, and expressed thanks to CNPC for its contribution to the local oil and gas industry and economic development. Mr. Sun Xingyun is the only oil and gas enterprise representative and foreigner receiving the honor this year.



MMG managed to outperform in its oil and gas production against the low oil prices in 2015, and ranked the third largest oil and gas company in Kazakhstan, and the largest in Mangystau Oblast. While other local oil companies suffered from operating loss or large-scale layoffs, MMG still created more than 5,800 jobs for the local people, and realized profits of almost USD 300 million.

### CPTDC was awarded the Certificate of Achievement by Kikwete, President of Tanzania

On October 10, 2015, the completion ceremony of two natural gas processing plants and an offshore pipeline was held in Mtwara, Tanzania. The project will play a significant role in alleviating power shortage in Tanzania and promoting the industrialization process and economic and social development of the country. Therefore, China Petroleum Technology & Development Corporation (CPTDC) was awarded the Certificate of Achievement by President of Tanzania Kikwete, for its outstanding contributions in the project.



# Performance Data

Performance indicators	2011	2012	2013	2014	2015
<b>Finances and operations</b>					
Total assets (RMB billion)	3,027.9	3,409.4	3,757.4	3,938.4	4,034.1
Owner's equity attributable to parent company (RMB billion)	1,513.9	1,636.2	1,787.5	1,978.4	2,079.4
Operating revenues (RMB billion)	2,381.3	2,683.5	2,759.3	2,730.0	2,016.8
Taxes and fees payable (RMB billion)	401.5	393.0	407.8	407.0	338.1
Newly-added proved oil reserves (million tons)	109.63	111.206	115.629	99.543	75.739
Newly-added proved gas reserves (billion cubic meters)	121.7	176.06	310.32	212.69	276.49
Crude oil production (including overseas equity output) (million tons)	149.27	151.88	159.81	164.17	166.57
Natural gas production (including overseas equity output) (billion cubic meters)	88.2	93.5	103.9	113.9	116.7
Crude runs (including overseas) (million tons)	179.62	191.45	188.55	196.98	195.24
Refined products output (million tons)	117.18	127.30	128.09	131.04	135.80
Ethylene output (million tons)	3.47	3.69	3.98	4.98	5.03
Lubricant output (million tons)	1.57	1.84	1.89	1.58	1.21
Marketing volume of refined products (domestic) (million tons)	114.98	116.62	118.33	117.02	116.25
Number of service stations (domestic)	19,323	19,840	20,272	20,386	20,714
Mileage of crude pipelines (km)	14,807	16,369	17,640	18,132	18,917
Mileage of refined products pipelines (km)	9,334	9,437	9,534	10,086	10,091
Mileage of natural gas pipelines (km)	36,116	40,995	45,704	50,836	50,928
<b>Safety</b>					
Total number of accidents	124	148	197	215	237
Fatality rate (person/million working hours)	0.007	0.003	0.0047	0.005	0.003
Fatality rate (person/million working hours)- employee		0.003	0.0028	0.0045	0.0029
Fatality rate (person/million working hours)-contractor		0.003	0.0144	0.0078	0.0033
Fatality rate per thousand vehicles in traffic accidents (‰)	0.0460	0.085	0.046	0.103	0.046
<b>Environment</b>					
COD emissions (metric tons)				31,300	*
NH <sub>3</sub> -N emissions (metric tons)				12,500	*
SO <sub>2</sub> emissions (metric tons)				197,300	*
NO <sub>x</sub> emissions (metric tons)				177,900	*
Energy saved (million tons of TCE)	1.22	1.31	1.18	1.26	1.16
Water conserved (million cubic meters)	23.53	24.35	24.40	24.62	20.61
Land saved (hectares)	1,080	1,200	1,225	1,232	1,200

# Outlook for 2016

In 2016, the world economy will experience a slow recovery. As the world's second largest economy, China is witnessing a new normal in its economic development and a slowdown in oil and gas demand growth. In the face of the challenges and difficulties brought about by the external environment, we will continue to pursue the policy of steady development, vigorously implement our strategies of resources, markets, internationalization and innovation, and make every effort to realize steady growth, adjust business structure, strengthen weak links, enhance efficiency, and prevent risks. Through reform and innovation, we will diversify our sources of revenue, cut costs, and enhance efficiency, in an endeavor to build a world-class integrated international energy company, and make new contributions to the economic and social development.

We will strengthen and optimize our core business and foster development advantages. Through coordinated development of the upstream and downstream sectors, domestic and international operations, and integrated business covering production, refining, marketing, stockpiling and marketing, we will build new advantages in promoting the Company's value enhancement and sustainable development through joint forces of different business sectors.

We will continue to promote the verification of the HSE system and regulate its operation. Great efforts will be made in the prevention and control of HSE risks, the quantitative verification of the HSE system, and hidden hazard control

of oil and gas pipeline networks. We will also push ahead with energy conservation and pollution reduction and fully promote clean production in order to stabilize and improve our HSE performance.

Upholding the people-oriented concept, we will implement major projects for talent development, safeguard the legitimate rights and interests of employees, and set up platforms for their career development. We will take the initiative to improve employees' working and living conditions, care for their physical and mental health, and strive to make all employees benefit from our company's achievements.

We will be further committed to public welfare programs including educational donations, poverty alleviation, disaster relief and staff voluntary activities. Through our industrial projects, we will help drive local employment, and actively support local economic and social development.

In an enterprising spirit and with a keen sense of responsibility, we will enhance our confidence in development and turn challenges into opportunities and pressure into motivation. Specifically, we will attach greater importance to the optimization of our business deployment and structure, the deepening of enterprise reform, innovation of technology, management and business models, green and low-carbon development, and openness and cooperation, in order to achieve more stable, sound and sustainable development of the Company.

## Performance Data (continued)

Staff					
Number of employees in service	1,574,500	1,539,300	1,534,000	1,500,200	1,518,200
Occupational health examination ratio (%)	92	93.5	94	97	98
Investment in Public welfare					
Total contribution (RMB million)	1,006.48	936.45	850.89	1007.60	1,366.03
- Poverty alleviation (RMB million)	239.63	263.41	227.44	206.87	341.10
- Disaster-relief (RMB million)	184.81	24.87	74.87	168.66	5.88
- Education (RMB million)	190.08	196.48	253.65	128.17	238.03
- Charity donation (RMB million)	322.44	286.74	163.40	395.26	632.03
- Environmental charity (RMB million)	69.52	164.95	131.53	108.64	148.99

\*As of the date the report released, the statistics of COD, NH<sub>3</sub>-N, SO<sub>2</sub> and NO<sub>x</sub> emissions of the Company in 2015 are under review of the Ministry of Environmental Protection of PRC (MEP), which will be publicized once verified. The verified statistics for the year 2015 shall be published in this report next year.

# Glossary

<b>Proven reserves</b>	According to China National Standards, proven reserves are estimated quantities of hydrocarbon deposits possibly to be recovered from reservoirs proved by appraisal drilling during the period of reservoir evaluation, with a reasonable certainty or a relative difference of no more than $\pm 20\%$ .
<b>Proved reserves</b>	According to the guidelines of the US Securities and Exchange Commission, proved reserves refer to, against current economic and operating circumstances, the quantity of oil, natural gas or liquid natural gas which can be reasonably identified and recovered from known oil & gas layer in the future according to geological and engineering documents. Their price and cost are based on the reality in evaluation. Price changes will only consider the changes of current price specified by contract agreement rather than escalations. Proved reserves include proved reserves developed and undeveloped.
<b>Reserve replacement ratio</b>	The reserve replacement ratio refers to the value of the amount of oil and gas reserves added in a year divided by the amount of oil and gas produced during that same year.
<b>Recovery ratio</b>	The percentage of oil/gas in place that is recoverable from underground.
<b>Horizontal well</b>	A class of nonvertical wells where the wellbore axis is near horizontal (within approximately 10 degrees of the horizontal), or fluctuating above and below 90 degrees deviation. A horizontal well may produce at rates several times greater than a vertical well, enhance recovery efficiency and prolong the production cycle, due to the increased wellbore surface area within the producing interval. Meanwhile, the environmental costs or land use problems that may pertain in some situations, such as the aggregate surface "footprint" of an oil or gas recovery operation, can be reduced by the use of horizontal wells.
<b>Liquefied natural gas (LNG)</b>	Liquefied natural gas is produced by dewatering, deacidifying, dehydrating and fractionating the natural gas produced from a gas field and then turning it into liquid under low temperatures and high pressure.
<b>New energy</b>	New energy refers to unconventional energy and renewable energies, mainly including CBM, shale gas, oil sands, oil shale, fuel ethanol, biodiesel, geothermal energy, wind energy, solar energy, hydrogen energy, water-soluble gas and NGH.
<b>Low-carbon economy</b>	A low-carbon economy is an economic development model characterized by low energy consumption, low pollution and low emissions. Its essence is efficient energy consumption, development of clean energy and pursuit of green GDP. The core of this model is the optimization of the industrial structure, low-carbon technology and institutional innovation. A low-carbon economy is developed by means of energy conservation, emissions reduction and the development of clean energy.
<b>Greenhouse gas (GHG)</b>	Greenhouse gases are gases in an atmosphere that absorb solar radiation from the surface and then emit radiation, such as water vapor, CO <sub>2</sub> , and most refrigerants. Their effect is making the Earth's surface warmer, as the "greenhouse effect" sequesters solar radiation and increases the temperature of the air. Greenhouse gases in the Earth's atmosphere mainly include CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCS, PFCS and SF <sub>6</sub> .
<b>Carbon sequestration</b>	Also refers to carbon sinks. It is the process, activity and mechanism to remove carbon dioxide from the air. Generally, it indicates the capability of forests to absorb and store carbon dioxide. Carbon dioxide in the atmosphere is artificially sequestered in biological forms in plants and the soil through forestation, forest management, and other forest carbon sequestration measures.
<b>HSE management system</b>	HSE is the acronym of the health, safety and environment management system. The HSE management system is an integration of various elements such as organizational structures, mandates, practices, procedures, processes and resources used for health, safety and environment management. The advanced, scientific and systematic integration and operation of these elements create the mutually reinforcing, supportive and interactive and dynamic management system.

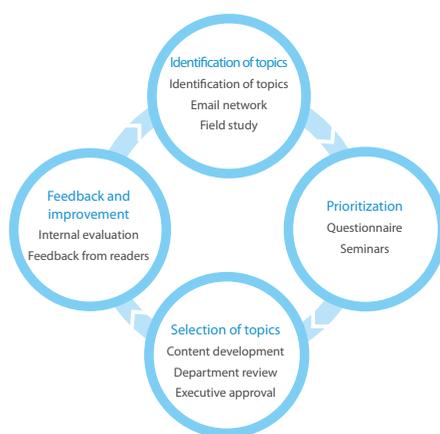
<b>Oils (mineral oil)</b>	Compounds of hydrocarbons in wastewater. These include all substances collected by certain solvents, as well as all substances extracted by solvents from acidified samples, which remained fixed during the extracting process.
<b>Chemical oxygen demand (COD)</b>	Chemical oxygen demand is the quantity of strong oxidant consumed to process water samples. It serves as a comprehensive index of pollutants in wastewater and their impact on the environment. A higher COD represents the heavier pollution of reductive substances in the water body.
<b>Energy Performance Contracting</b>	Energy performance contracting is a market-based energy-saving model under which the investment is recovered by the cost saved from energy consumption.
<b>Major accident</b>	Major accidents refer to accidents that cause deaths above 10 but below 30, or grievous harm to people numbering above 50 but below 100, or economic losses worth above RMB 50 million but below RMB 100 million.
<b>Emergency accidents</b>	Emergency accidents refer to sudden emergent accidents which result in or may result in serious casualties, and/or damage to property, the environment, society and public safety. Emergency accidents faced by CNPC include four types, namely natural disasters, accidents, public health and social security.
<b>Occupational disease</b>	Diseases caused by exposure to dust, radioactive substances and other toxic and hazardous substances to employees working for enterprises, institutions and private organizations.
<b>Occupational health surveillance</b>	A series of health examinations for professionals in an industry aimed at preventing occupational health threats and improving the health of employees. Occupational health surveillance includes occupational health checks, management of occupational health archives, etc.
<b>Occupational health examination</b>	Physical examination of workers exposed to occupational health threats. The items and frequency of checks should be determined by the category of health threats, and by stipulations in the Items and Frequencies of Occupational Health Checks. These include checks before, during and at the end of a worker's assignment, as well as emergency checks.
<b>Occupational health examination ratio</b>	The annual ratio between the number of workers exposed to occupational threats who have taken occupational health checks and the total number of workers who should receive such checks.
<b>Stakeholders</b>	Stakeholders are groups and individuals that are able to impact the accomplishment of corporate goals, or groups and individuals that are impacted by corporate goals, including the natural environment, future generations, and non-human species that are directly or indirectly affected by corporate business activities.
<b>Production base</b>	Generally this refers to mining zones recovered, being recovered or to be recovered. It includes several regions covering mines and open mines equipped with utilities like production processes, ground transportation, power supply, telecommunication scheduling, production management and living services.
<b>Community</b>	A community is an administrative jurisdiction within which a group of people live in a fixed geographical area, fulfilling their social functions and creating social norms. It is at the same administrative level as an administrative village.

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# Approach to Reporting

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 communication. 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 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.



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