

Key Topics

1 High-quality Growth

China's economy is in a shift from high-speed growth to high-quality growth. CNPC, as China's largest oil and gas producer and supplier, has been promoting high-quality growth to support the growing demand for oil and gas and the need for a low-carbon, secure and efficient energy system. This is an inevitable choice of the company in coping with risks and challenges and gaining strategic initiative. This is the road we must go through to strengthen and expand the state-owned capital and build a world-class enterprise with global competitiveness. And this is the answer to prominent problems in our business growth.

How Do We Define High-Quality Growth?

For CNPC, high-quality growth means an energy security-oriented approach to building a world-class and globally competitive company with high-quality operating results, high-quality growth momentum, high-quality development foundation and high-quality business performance through the reform in terms of quality, efficiency and driving force.

Framework Requirements for "Four High-Quality"

High-quality operating results

Continuously improve oil and gas value chains; further optimize investment structure and asset structure; achieve steady growth in revenue and profit from core business operation; increase supply of high-quality clean energy; realize world-leading ROI and RONA; and preserve or increase state-owned assets.

High-quality growth momentum

Implement the innovation and human capital strategies and deepen enterprise reform in support of building a world-class innovative and IT-enabled company; continuously improve modern state-owned enterprise systems with Chinese characteristics; strengthen employee competencies; enhance contribution of technological progress and total-factor productivity.

High-quality development foundation

Reinforce quality control and rectification of hidden perils; promote safe and eco-friendly operations; enhance energy/resource efficiency; maintain the overall harmony and stability of the company; improve project quality and product quality; achieve industry-leading HSE performance; strive for a harmonious relationship between the company and the environment, and ensure the success of the company also shared by its employees.

High-quality business performance

Exert more efforts on analyzing macroeconomic situations and market trends; strengthen risk identification, early warning and prevention; optimize resource allocation; timely adjust business strategies; take a measured and paced approach to policy implementation; reinforce corporate governance and compliance; ensure steady production and management; and improve risk control and operating efficiency.



How Do We Achieve High-Quality Growth?

Highlight innovation and accelerate the shift in growth momentum

Seize the emerging opportunities in a new wave of technological and industrial revolution; foster innovations in technology, management and business models in the principles of "business-oriented, self-dependent, incentive-driven and knowledge sharing" facilitate deep integration of information technology with the process of industrialization; and strength the capabilities in self-dependent innovation and guiding of industrial standards, making innovation the major driver of business growth.

- Strengthen technological innovation
- Promote management innovation
- Inspire innovation vitality

Achieve coordinated development across all business segments and enhance value-creating competence of our core business

Give full play to our advantage of having integrated business. In developing our core business, differentiated approaches are employed such as "prioritized efficient, accelerated and coordinated" specific to different business segments. In line with the supply-side structural reform, efforts are focused on enhancing the quality and efficiency of oil and gas supply. Improve mechanisms for profit distribution, price transmission and interaction evaluation between upstream and downstream activities, domestic and overseas businesses, oil and gas operation and oilfield services, in a bid to shore up our weak points and bolster the company's overall value-creating competence and market competitiveness, making coordination an organic attribute of our business growth.

- Strengthen E&P activities
- Accelerate refining and chemicals business transformation and upgrading
- Increase oil and gas sales and profit
- Enhance service capability

Establish a low-carbon modern energy system

Give priority to resource conservation and eco-friendliness in our operations. Promote all-round technology progress in oil and gas production and energy use so as to build CNPC into an energy-saving and environmental-friendly enterprise, making green development a universal practice.

- Promote clean and safe production
- Enhance efficiency in resource and energy use
- Develop new energy

Forge a community of shared interests in international oil and gas cooperation

Improve the scope, depth and level of international oil and gas cooperation. Enable efficient allocation of domestic and overseas resources and the complementary interaction between the domestic and international markets, making opening up indispensable to development.

- Strive for high quality overseas oil and gas operations
- Deepen involvement in shaping the global oil and gas trading and market system
- Further opening up to the outside world

Highlight a harmonious community for common growth and benefit sharing

Share the benefits of growth with our employees, the society and our partners on the principles of "with everyone, by everyone and for everyone" to allow a sense of gain, happiness and security, making benefit sharing the fundamental goal of business growth.

- Work towards the success of both the company and our employees
- Achieve win-win with stakeholders

2 CNPC and 40 Years of Reform and Opening-up

The year 2018 marks the 40th anniversary of China's Reform and Opening-up, as well as the 20th anniversary of CNPC's restructuring.

CNPC, as an epitome of the SOE reform, has witnessed a number of historic milestones and huge strides in business growth over the past four decades, especially the past 20 years since its restructuring.

From the Ministry of Petroleum Industry to an oil company and an energy conglomerate, from the 100Mt crude oil production scheme to global market involvement, from opening up offshore resources to launching onshore cooperation projects, from operating domestically to operating internationally, Reform and Opening-up has been a powerful driver of CNPC's business success.

CNPC has turned into an integrated international energy company after 40 years of growth, with remarkably improved comprehensive strength and international competitiveness in oil and gas operations, oilfield services, engineering construction & equipment manufacturing, financial services and new energy development. In 2018, CNPC ranked 3rd among the world's top 50 oil companies by Petroleum Intelligence Weekly and 4th on the Fortune 500 list.

3rd

CNPC ranked 3rd among the world's top 50 oil companies by Petroleum Intelligence Weekly in 2018

4th

CNPC ranked 4th on the Fortune 500 list in 2018

Milestones of Our Reform

Ministry of Petroleum Industry (1978 -1988)

1978

The Ministry of Petroleum Industry was set up.

1980

Contracts on offshore oil projects were signed for the first time between the Ministry of Petroleum Industry and foreign oil companies.

1981

The Ministry of Petroleum Industry launched the 100Mt crude oil production scheme and adopted a "twin-track" approach to oil pricing.

1985

Onshore oil cooperation projects were kicked off.



1985

China National Petroleum Company (1988 - 1998)

1988

The Ministry of Petroleum Industry was disbanded; China National Petroleum Company was established.

1989

E&P activities in the Tarim Basin were launched. Following the managerial mode of international oil companies, CNPC introduced the client-contractor mechanism and project management practices. New techniques and processes were adopted to ensure effective and efficient operation.

1993

CNPC won the bid for the Talara oil project in Peru. It marked CNPC's debut in the global E&P activities.

1997

The 15th World Petroleum Congress was held in Beijing. It was the first time that this event had been hosted in China.



1997

China National Petroleum Corporation (1998 - 2018)

1998

China National Petroleum Corporation was incorporated.

2000

PetroChina, with CNPC as its parent company, listed on SEHK and NYSE.

2002

The West-East Gas Pipeline Project was kicked off, marking the start of China's Great Western Development Program.

2004

The new flower-shaped logo was adopted.

2007

PetroChina listed on SSE.

2011

The company's overseas projects produced more than 100 million tons of oil equivalent for the first time, with CNPC's equity production exceeding 50 million tons.

2014

Corporate reforms were deepened throughout the company.

2017

The nature of China National Petroleum Corporation was changed from an enterprise owned by the whole people into a (solely state-owned) limited liability company.

2018

The company entered into a new stage of high-quality growth.



2000



2004

3 Discovery of a Giant Conglomerate Oilfield in the Mahu Sag

Since 2005, CNPC has been conducting research and studies to challenge the traditional understanding that no large-scale coarse sediment leads to few oil and gas reservoirs with scale benefits in sags. With the Mahu Sag in the Junggar Basin in Xinjiang as a pilot site, the company has been exploring a brand new exploration target — conglomerates in sags. Consistent efforts over the past decade have helped us develop a theoretical and technological framework for the exploration of conglomerate reservoirs in sags, resulting in the discovery of a giant conglomerate oilfield in Mahu with reserves of about 1 billion tons. In 2018, this significant discovery was awarded the first prize of the State Science and Technology Progress Award.

Project Background

The northwestern margin of the Junggar Basin in Xinjiang is one of China's major oil-producing areas featuring conglomerate reservoirs. The Karamay Oilfield, one of China's most important petroleum production bases, was discovered in this region. However, after half-century-long ongoing exploration, the region now lacks newly added reserves and needs to seek for new pay zones. And the discovery of this giant oilfield in the Mahu Sag has come just in time.

Theoretical and Technological Innovations

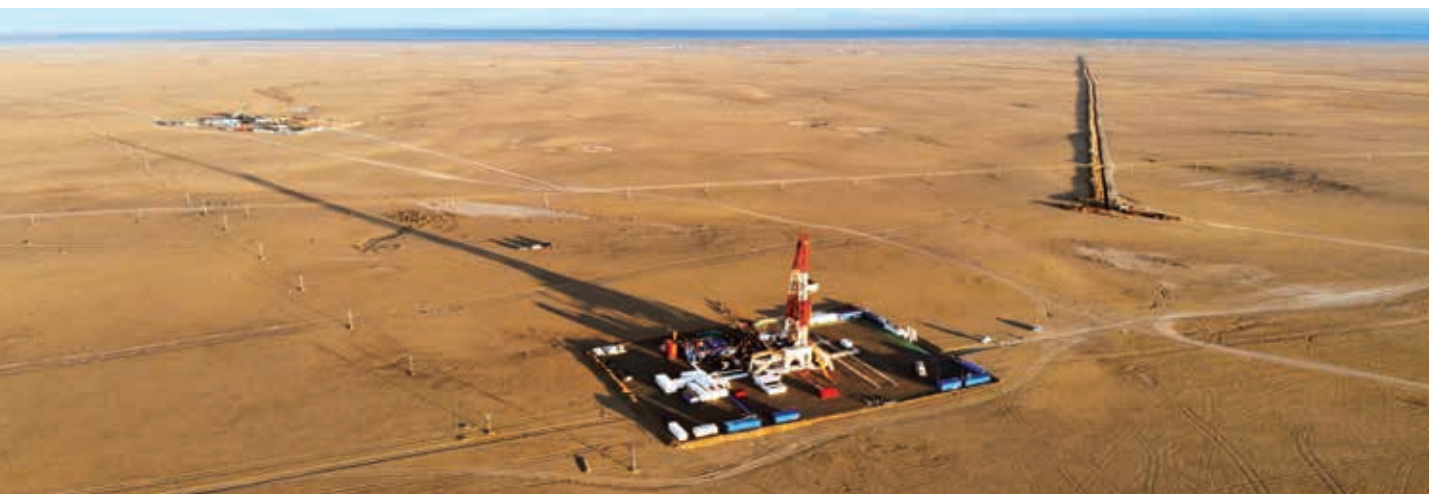
- **Oil bearing:** Break through the conventional view of sedimentology that conglomerates are distributed along the basin margin. The sag-wide conglomerate deposit model is introduced as a new theory for continental deposit
- **Oil generation:** Break through Tissot's single-peak oil generation model and establish the dual-peak oil generation model for hydrocarbon source rocks in alkaline lakes, developing the existing continental petroleum formation theories
- **Oil accumulation:** Break through the existing view that large-scale deposits result from source-reservoir assemblage and build the source-conglomerate accumulation model, developing the lithological reservoir theory
- **Oil extraction:** The bottlenecks in conglomerate reservoir evaluation, desert forecast and economic producibility are overcome to enable effective exploration and efficient production

Project Significance

The giant oilfield in the Mahu Sag witnessed the, probably, oldest alkaline lacustrine deposits in the world for the first time and managed to reconstruct the thermal evolution and hydrocarbon-generating process. As the greatest exploration achievement of China over the past decade, Mahu is the world's largest-ever monoblock conglomerate-type oilfield, and one of the most important sources of crude production ramp-up in China, with its production capacity expected to exceed 10 million tons by the end of the 13th Five-Year Plan period.

In particular, crude in Mahu Oilfield contains the naphthenic base component, a rare raw material essential for the production of high-end petrochemicals such as high-power aviation fuels and ultra-low temperature lubricants, etc.

For CNPC, the discovery in Mahu represents a successful move into a new sphere of hydrocarbon exploration and provides replicable theories and technologies for global peers, making it possible for the conglomerate reservoirs in sags, which is of vast potential, to serve as an important alternative of hydrocarbon exploration in the 21st century.



4 A Holistic Approach to Increasing Natural Gas Supply

As Chinese economy continues to grow and the energy mix transformation and upgrading pick up the pace, the domestic demand for natural gas has been growing rapidly in recent years. CNPC, as China's largest natural gas supplier, has taken a holistic approach to increasing supply and meeting market needs by coordinating and streamlining processes across production, trade, storage and transportation, and marketing. The company sold 172.4 billion cubic meters of natural gas in China throughout 2018, an increase of 13.6% year-on-year.

172.4 bcm
Domestic natural gas sales in 2018



Maximizing domestic gas production

We bolstered E&P efforts in four major gas provinces, i.e. Changqing, Tarim, Southwest and Qinghai, to maximize the gas output. Production has expanded in less high-profile gas fields such as those in Daqing and Jilin, reaching their all-time highs. Meanwhile, unconventional resources accounted for a larger share in newly-increased natural gas, as tight gas, shale gas and coalbed methane are becoming an increasingly important complement to conventional resources.



Consolidating gas resources throughout the world

We reached out to global resources through the Central Asia-China Gas Pipeline, Myanmar-China Gas Pipeline and LNG sea routes to make up the shortfall in domestic supply. Natural gas imports rose remarkably in 2018. Emergency response plans have been developed to address pipeline-related risks and ensure stable supply. LNG purchases were further ramped up. In addition to long-term agreements, spot purchases were increased in response to peak demand in winter. Three LNG terminals in Jiangsu, Tangshan and Dalian were running at their maximum capacity in the fourth quarter.



Boosting peak-shaving capacity of underground gas storage facilities

There have been currently 13 underground gas storage facilities in China, 10 of which are constructed and operated by CNPC. Besides, CNPC also accounts for more than 90% of the country's peak-shaving capacity. In 2018, the company enhanced its gas injection efforts and prepared winter peak-shaving resources beforehand. A total of 9.4 billion cubic meters of gas was injected, up by 23% year-on-year. 10 new gas storages are being planned, and preliminary evaluation and pilot testing are now under way. Meanwhile, we expanded existing gas storage facilities to boost their peak-shaving capacity.



Promoting gas pipeline connectivity

We launched gas pipeline connectivity projects together with Sinopec and CNOOC in debottlenecking transmission issues faced by natural gas infrastructure. By the end of 2018, 24 projects had gone on stream to give a strong boost to the gas resource dispatching capability all over China.



Improving natural gas marketing network

Market development efforts have been stepped up to ensure smooth marketing channels and enable an integrated marketing approach across the upstream and downstream markets. By the end of 2018, CNPC's gas marketing network covers 32 provinces, municipalities, autonomous regions and Special Administrative Regions. The company continues to be the major supplier in the northern, southwestern, northwestern, central and northeastern parts of China with a growing presence in the eastern and southern markets.