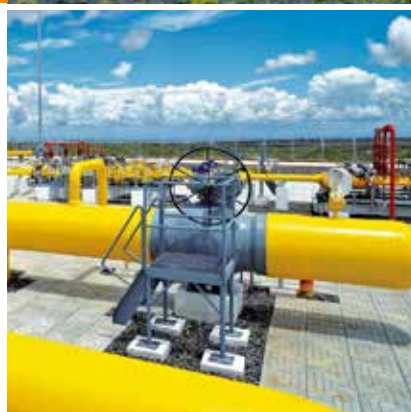




2019

Annual Review



China National Petroleum Corporation

Contents

About Us	01
Leadership	02
Financial Highlights	03
Environment and Society	04
Technology and Innovation	06
Annual Businesses Review	08
• Oil and Gas Operations in China	08
• Overseas Oil and Gas Operations	10
• Services Business	12



An aerial photograph of an oil field situated in a lush green landscape. A winding river flows through the foreground, surrounded by dense green vegetation. In the middle ground, several oil pumpjacks are visible, along with a small cluster of blue and white buildings. The background shows a flat horizon under a clear blue sky.

About Us

China National Petroleum Corporation (CNPC) is an integrated international energy company with businesses covering oil and gas operations, oilfield services, petroleum engineering & construction, equipment manufacturing, financial services, and new energy development.

■ Our Goal

To be a world-leading integrated international energy company

■ Our Strategies

Resources, Market,
Internationalization, Innovation

Leadership



Dai Houliang
Chairman



Li Fanrong
Director, President



Liu Yuezhen
Chief Financial Officer



Lv Bo
Vice President



Jiao Fangzheng
Vice President



Xu Jiming
Chief of Discipline
& Inspection Group

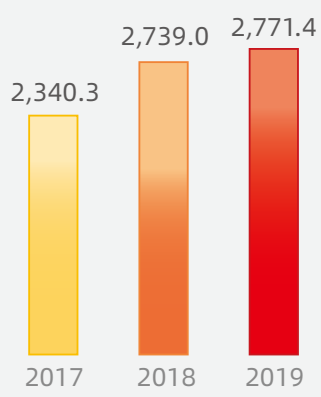


Duan Liangwei
Vice President,
Chief HSE Supervisor

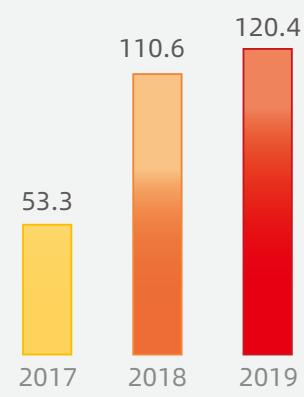


Huang Yongzhang
Vice President

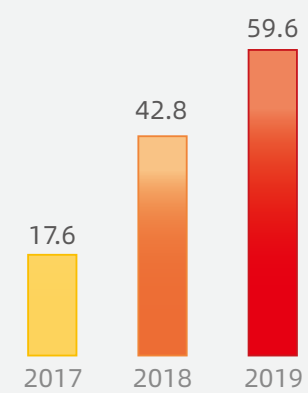
Financial Highlights



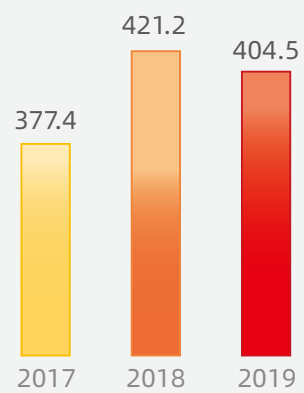
Revenue
(billion RMB yuan)



Earnings before taxes
(billion RMB yuan)



Net income
(billion RMB yuan)



Taxes and fees paid globally
(billion RMB yuan)

Environment and Society

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

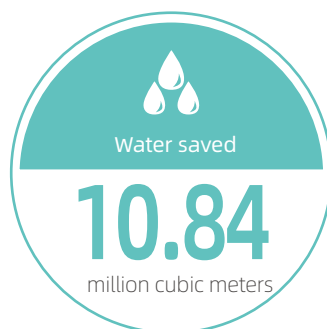
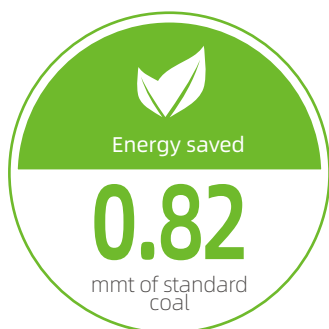
Safety and Environmental Protection

We actively promote the building of a long-acting safety system and comprehensively enhance our work safety management. In 2019, the company maintained a safe momentum in production. We make great efforts to reduce adverse effects on environment and climate. By improving resource utilization efficiency, implementing the Clean Air Act, and promoting energy conservation and emission reduction, we strive to achieve harmony between energy and the environment.

Climate Change

We support the **Paris Agreement** and embrace the goal of limiting global warming to less than 2°C by the end of this century. To this end, we actively respond to climate change, devote ourselves to low-carbon development. The company set up a task force for improved carbon emission control. In 2019, the CNPC-proposed Xinjiang CCUS Hub was selected by Oil & Gas Climate Initiative (OGCI) as one of the five regional centers around the world under the **Carbon Capture, Utilization and Storage (CCUS) KickStarter Initiative**.

In 2019



Social Responsibility

We remain committed to combining our business growth with local sustainable development, attaching importance to people's livelihood and social progress, sharing development opportunities and resources value with the local community.

In China

In 2019, we continued efforts in targeted poverty alleviation and invested RMB 152 million in 70 projects, including infrastructure reconstruction, education and training, healthcare, as well as industrial collaboration, in 13 counties and districts from seven provinces (municipalities and autonomous regions) of China, namely Xinjiang, Tibet, Qinghai, Chongqing, Henan, Jiangxi and Guizhou.



CNPC has been implementing the Developing Tourism for Poverty Alleviation Demonstration Program in three poverty-stricken counties since 2017, i.e. Xishui in Guizhou as well as Taigian and Fanxian in Henan. By exploring the local tourism resources and adopting the mode of villager's cooperative, CNPC invested in featured accommodation to boost the tertiary industry focusing on rural tourism.



CNPC invests in the Safflower Industrial Park in Qapqal County, Yili, Xinjiang, to promote the development of local economy.

Overseas

CNPC has launched a wide range of public welfare activities in the countries where we operate, such as Iraq, Chad, Kazakhstan, Ecuador, Peru, and Canada. We build hospitals and schools, make cash and in-kind donations, as well as provide health check-ups, etc. in the local communities.



We help the town of Koudalwa, which is near the Ronier Oilfield in Chad, to promote its urbanization process by building infrastructure such as water wells, roads and schools. Over these years, the population of the town has grown from less than 500 to more than 10,000.

Technology and Innovation

In light of its business development program, the company has deepened R&D reforms and stepped up talent development in a bid to foster innovation on all fronts and create a new engine for growth.

Construction of Technological Innovation System

We have further strengthened an innovation-driven system for technological innovation by introducing a multi-tier, multi-faceted R&D system to support the growth of our business units. A supporting system is in place to secure funding, streamline processes and facilitate team building. By the end of 2019, the company had 82 research institutes, 55 key laboratories and testing centers, and 19 national R&D platforms covering upstream, midstream and downstream activities.

Major R&D Achievements in 2019

Technical areas	Major achievements
Exploration and Production	The reservoir forming theories and evaluation methods for subsalt, ultra-deep natural gas reservoirs were studied and the EOR techniques such as air/foam flooding for low-permeability oil reservoirs were developed to provide technical support for achieving breakthrough discoveries and production growth, operating overseas projects, and managing production operations.
Refining and Petrochemicals	Our proprietary catalysts for National VI-compliant gasoline were developed for commercial applications. The R&D programs for refinery upgrades, refining catalysts, and polyolefins etc. were implemented. New polyolefin grades were launched, and production processes and technological packages for polyolefin catalysts were improved to provide technical support for the sustained growth in the refining and petrochemicals business.
Oilfield Services	A range of new techniques and systems were launched, including fiber-based borehole geophysical data acquisition system, ocean bottom node (OBN) seismic acquisition system, high-performance rotary steerable system (RSS), 10,000-meter formation micro imager (FMI), and smart pipeline construction system for alpine regions, to enhance greatly our capabilities to deliver oilfield services under complex and extreme conditions.
Frontier Technology	New headway was made in nano oil displacement, with the mechanism for the use of nanofluids in EOR closely investigated. These nanofluids were commercialized and tested for single/clustered wells, which proves the effectiveness of the nanofluids.

Application of Information Technology

Information technology has been extensively integrated with our production and operation in the form of digital oilfields, intelligent refineries, intelligent pipelines and smart service stations etc. The cloud-based platforms for business scenarios, e-commerce and scientific computing are expanded to provide cloud computing resources for R&D and engineering design activities.

S&T Awards and Intellectual Property Rights

- "100-million-ton production capacity and high efficient development for extremely-thick and complex carbonate reservoirs in the Middle East" received the First Prize of the State Science and Technology Progress Award
- In charge of the preparation and amendment of seven international standards, i.e. **Life-Cycle Integrity Management for Onshore Pipeline**, **Life-Cycle Integrity Management for Offshore Pipeline** and **Geological Hazard Risk Management for Onshore Pipeline** etc.
- "A Well Logging Method and Apparatus for Rock Brittleness Evaluation" and "A Method for Determining the Source of Highly Mature Gas Condensate" won the China Patent Gold Award and Silver Award, respectively

Our patent applications have seen rise in terms of both quantity and quality. In 2019:

Patents applied

5,537



Including patents for inventions

3,045

Patents granted

4,340



Including patents for inventions

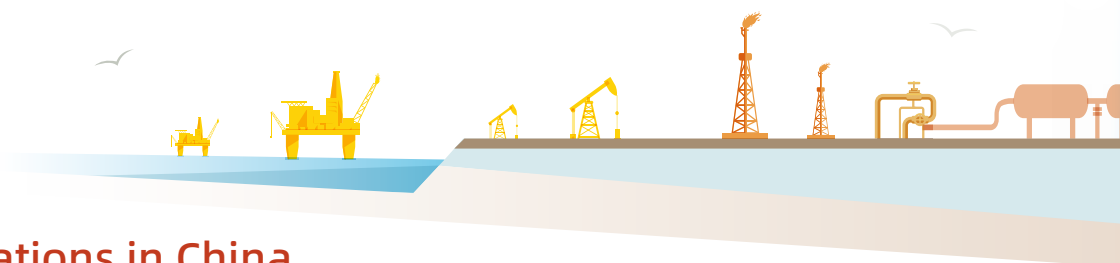
1,600



Industrial robots on patrol at the Changqing Oilfield

Annual Businesses Review

Focusing on market orientation and economic returns, the company continues to optimize production organization and resource allocation, promote integrated and coordinated operation on oil and gas production, refining, marketing and trade activities, and improve international operation performance and market competitiveness in service business.



Oil and Gas Operations in China



Exploration and Production

Persisting in the resource strategy in 2019, we boosted E&P efforts with a focus on new and key areas. Strategically significant discoveries were made in Junggar, Ordos, Tarim and Sichuan basins. There was a rebound in the company's crude production, and natural gas production growth was at a five-year high.

Newly proven oil in place

836.60 mmt

Crude production

101.77 mmt

Newly proven gas in place

1,239.9 bcm

Natural gas production

118.8 bcm



Natural Gas and Pipelines

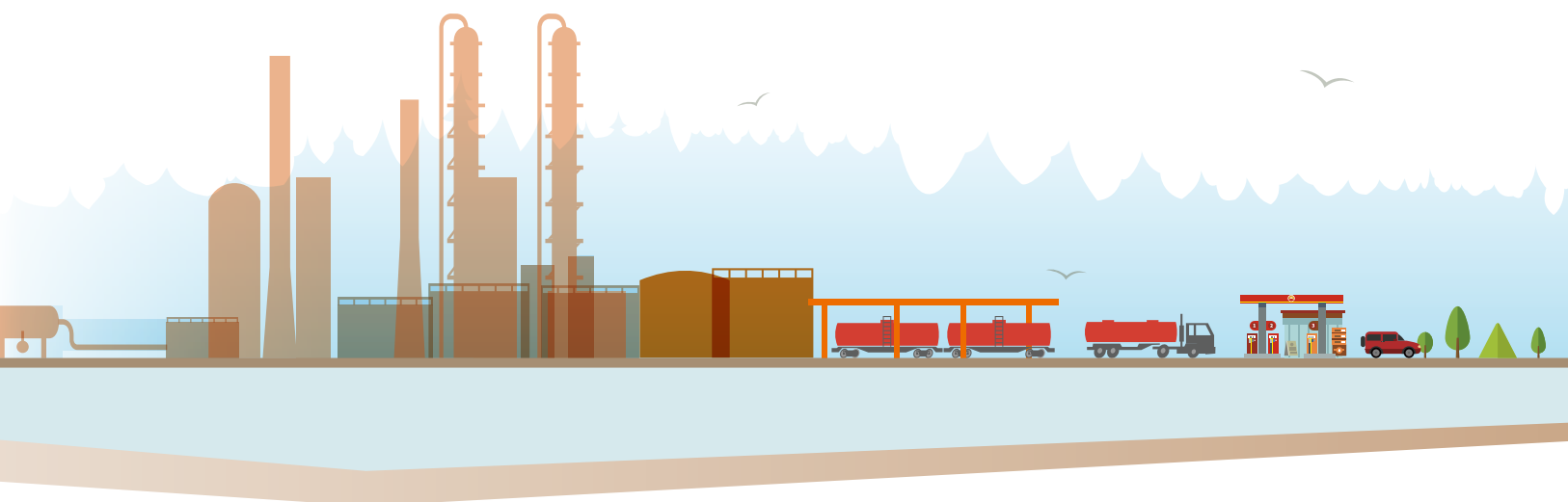
We put more importance on the entire value chain of gas business, resulting in a steady increase in the natural gas sales. By the end of 2019, CNPC supplied gas to 31 provinces, municipalities, and autonomous regions, and the Hong Kong Special Administrative Region (HKSAR). Moreover, we continuously improved the intelligent pipelines, optimized the operation of our gas pipeline network and put into operation of a number of key pipeline projects, such as the Eastern Russia-China Natural Gas Pipeline, etc.

Natural gas sales

181.3 bcm

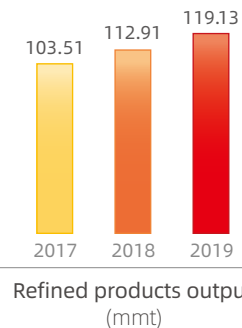
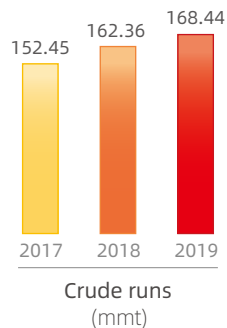
Pipeline mileage

90,352 km



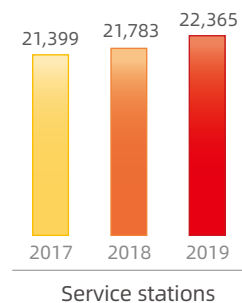
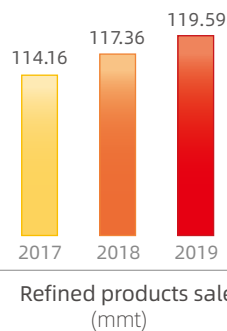
Refining and Chemicals

We accelerate the upgrading and transformation of the refining and chemicals business focusing on optimizing product portfolio by reducing oil products output and increasing chemicals production. The diesel-gasoline ratio decreased continuously for ten years, and the percentage of high-value products increased by 2.6 percentage points year-on-year. By the end of 2019, CNPC had seven large integrated refining-petrochemical complexes and eleven 10Mt/a refineries.



Marketing and Sales

In 2019, we insisted on integrated marketing for oil products, pre-paid fuel cards, non-fuel products, lubricants and natural gas, as well as carried out market-oriented reform, fine marketing, data-based operation and diversified development.



Overseas Oil and Gas Operations

We promote oil and gas international cooperation based on regional footprint in Central Asia-Russia, Middle East, Africa, Latin America, and Asia Pacific, and three international operation hubs in Asia, Europe and America. With improved operating management, our managerial capability of global operation has been steadily enhanced. By the end of 2019, our investment in oil and gas business covered 35 countries and regions around the world. International trading and shipping of crude oil, refined products, natural gas and chemicals in more than 80 countries and regions remained robust.





American
operation hub

Latin America

Unique cooperation zone
for the development
of unconventional and
deepwater oil and gas
resources

Exploration



Newly added recoverable
reserves (Equity)

28.15 Mtoe

Production



Crude production (Equity)

79.26 mmt

Natural gas production (Equity)

31.5 bcm

Pipeline Construction
and Operation



Pipeline mileage

16,500 km

Refining and Chemicals



Crude runs

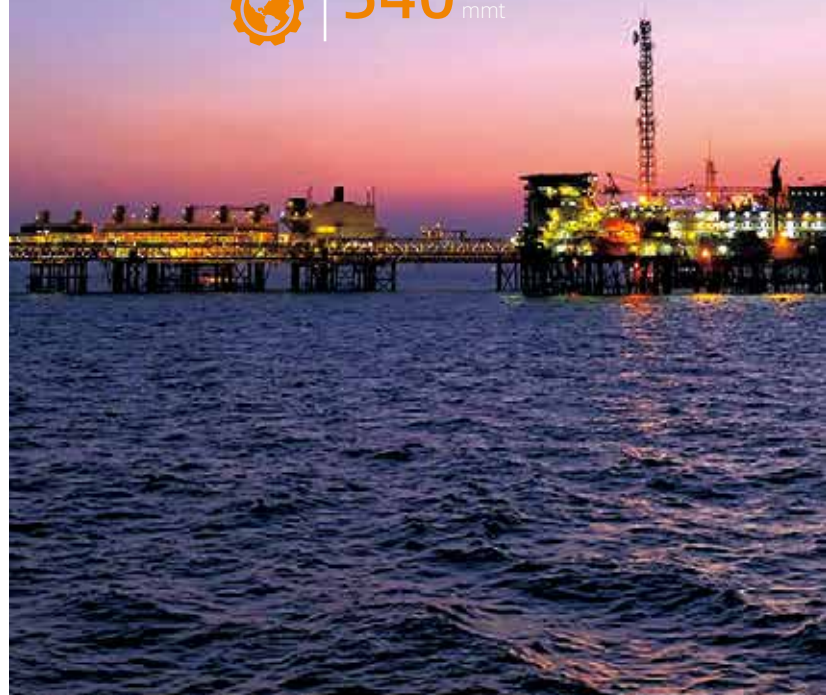
39.53 mmt

International Trade



Trade volume

540 mmt



Services Business

By leveraging the integrated business capabilities and expertise, our service quality and market competitiveness in oilfield services, engineering and construction, equipment manufacturing and financial services continued to improve in 2019.



About This Review

In this review, the expressions "CNPC", "the company" and "we" are used for convenience where references are made to China National Petroleum Corporation. This review is presented in Chinese, English, Russian, Spanish and French. In case of any divergence of interpretation, the Chinese text shall prevail.

Recycled/recyclable paper is used for this review.

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2019 Annual Report



2019 Annual Review



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