



中国海洋石油总公司
CHINA NATIONAL OFFSHORE OIL CORP.

2016 SUSTAINABILITY REPORT

Our Quality Energy for Your Blue Sea and Sky



REPORT INTRODUCTION

Following its launch in 2005, this is the twelfth consecutive issue of annual sustainability report of China National Offshore Oil Corporation. It is an accurate reflection of our fulfillment of economic, environmental and social responsibilities undertaken in 2016. Some pertinent information about the report is as follows:

Reporting Entity: China National Offshore Oil Corporation

Alternative Reference: China National Offshore Oil Corporation is herein also referred to as “CNOOC”, “the Company”, “the Corporation”, “we”, “our” or “us”.

Reporting Period: January 1 to December 31, 2016. In order to ensure the continuity and comparability of the information disclosed, the applicable period for certain information may be extended forward or backward accordingly.

Reporting Cycle: This report is an annual report.

Reporting Principles: To meet the needs of the stakeholders and general public by disclosing key information of the Company in a true, objective, timely and comprehensive manner.

Data: All 2016 data disclosed herein are annual statistics. In case of discrepancies with the data in the annual report, the latter shall prevail. Unless otherwise specified, all amounts are expressed in Renminbi (RMB).

Reporting Scope: Unless otherwise specified, all information disclosed in the report is from official documents, statistical reports and reports of fulfillment of responsibilities by CNOOC and our subsidiaries. The information has been reviewed by our management, supervision department and various subsidiaries. Moreover, information about CNOOC’s management framework, management process for sustainable development and our subsidiaries is available on the Company’s website at www.cnooc.com.cn as sustainability and annual reports over the years.

Improvements: In order to reflect the fulfillment of CNOOC’s responsibilities in a more objective, comprehensive and intensive manner, the 2016 Report is presented with the theme of “Our Quality Energy for Your Blue Sea and Sky” and three issues of “Promoting Economic Growth, Enhancing Environmental Protection, and Driving Social Progress” to demonstrate CNOOC’s sustainable development. In addition to the independent release of “CSR Report Overseas”, five major topics about social responsibility are highlighted in the report: “‘Spirit of Craftsmanship’ Created Blue Legend”, “Ecological Protection Contributes to A Beautiful China”, “Manifesting CNOOC’s Responsibilities through Targeted Poverty Alleviation”, “Combining ‘Blue Force’ with Charity”, and the “Global Presence of CNOOC’s Products and Services”. The compilation of the Report is based on site investigation on the responsibility fulfillment of CNOOC’s affiliates and the selection of real cases. Opinions and suggestions from the stakeholders are also incorporated to give an active response to their concerns.

References: This report is prepared on the basis of the “Ten Principles” of United Nations Global Compact, the *Guidelines to the Central Government-owned Enterprises on Fulfillment of Corporate Social Responsibilities* and the *Guidelines to the State-owned Enterprises on Better Fulfillment of Corporate Social Responsibilities* issued by State-owned Assets Supervision and Administration Commission of the State Council of People’s Republic of China with reference to the *Sustainability Reporting Guidelines* of the Global Reporting Initiative (GRI 4.0 Version), the *Sustainability Reporting Guidelines of Oil and Natural Gas Industry (2010 2nd Edition)* jointly issued by the International Petroleum Industry Environmental Conservation Association (IPIECA) and the American Petroleum Institute (API), the *Guidelines on China’s Corporate Social Responsibility Reporting (CASS-CSR3.0)* by the Corporate Social Responsibility Research Center of the Economics Department of Chinese Academy of Sciences, and the ISO 26000 Social Responsibility Guide (2010) by the International Standards Organization.

Language: This report is published in both Chinese and English. In case of discrepancies, the Chinese version shall prevail.

Accessibility: This report is available in print and electronic formats. The digital version can be downloaded from the Company’s website at www.cnooc.com.cn. To obtain a print version of the report, please email report@cnooc.com.cn.



THE LOGO OF CNOOC

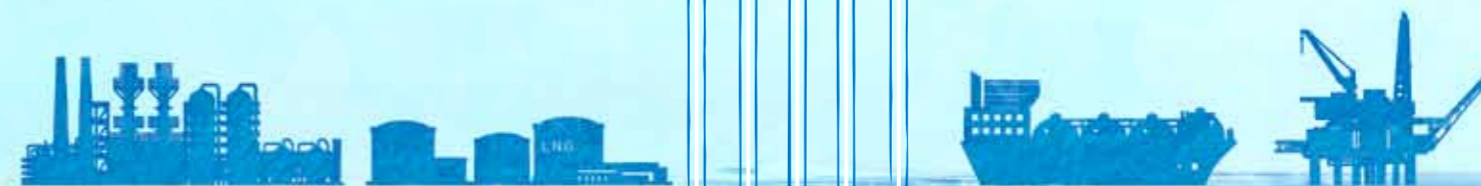
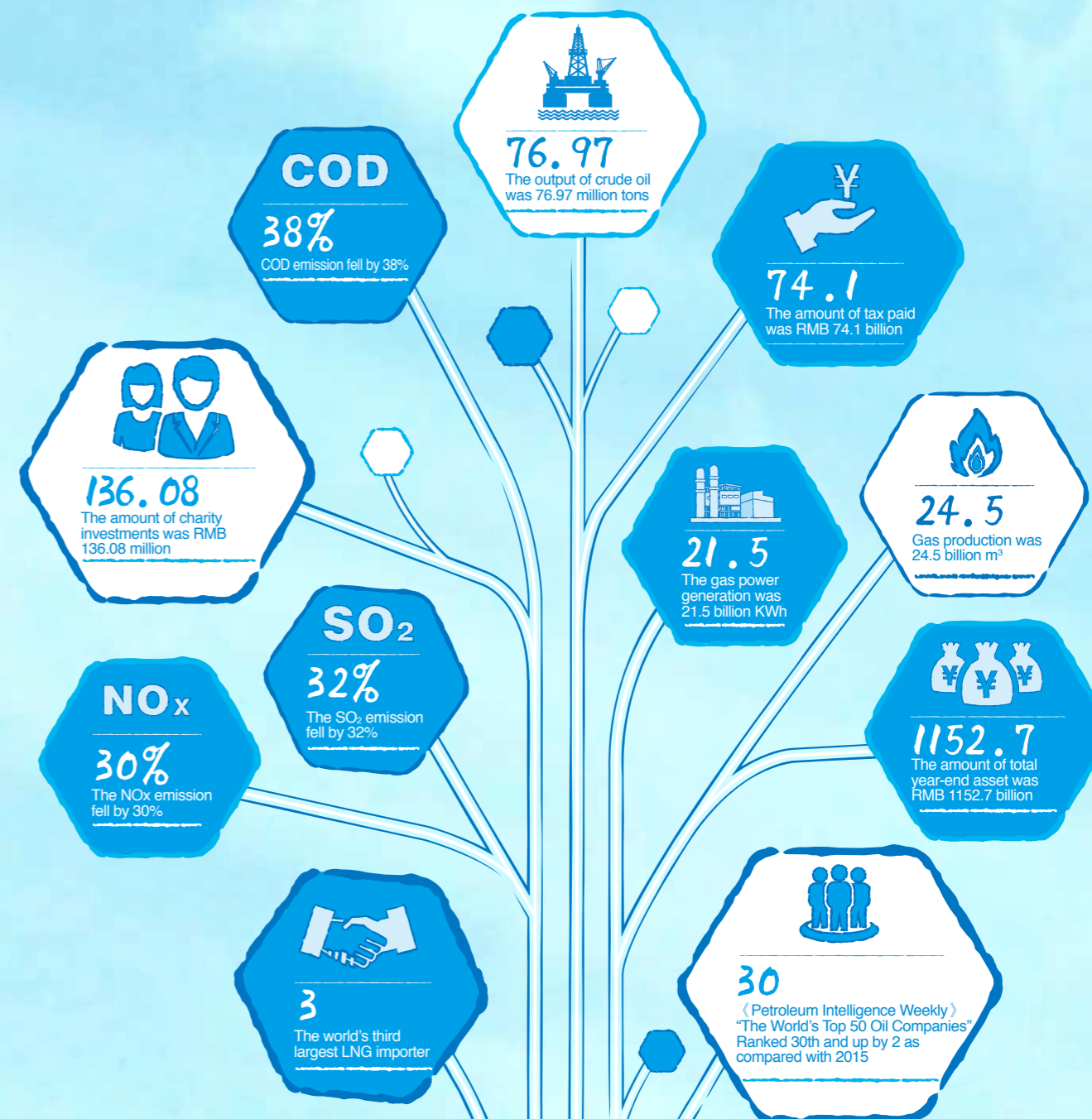
The corporate logo of China National Offshore Oil Corporation (CNOOC) encompasses the basic design elements comprising the letters that make up the company’s initials CNOOC, enclosed by the blue curves and ripples that represent China’s seawaters. The design in red, formed by the capital letters CNOOC, depicts an offshore drilling rig silhouetted against the rising sun, symbolizing prosperity in the offshore oil industry of China.



ABOUT THE COVER

Chinese and foreign management staff are discussing the work on-site of Phase II Project of Huizhou Refinery.

CNOOC in Numbers





CHAIRMAN'S LETTER

Dear all:

In 2016, the Chinese economy entered a “New Normal” phase of medium-speed development as the global economy witnessed weak growth of demand for energy consumption and persistently low international oil prices. Faced with severe challenges, CNOOC has been constantly launching bold strategies in search of new breakthroughs in the harsh market environment. As a member of the United Nations Global Compact and leading promoter for China's “Energy Revolution”, CNOOC adheres to the “Ten Principles” of Global Compact with an in-depth understanding of the essence of “Energy Revolution”. It aims at fulfilling the development principles of “innovation, coordination, greenness, openness and sharing”. We attach great importance to safe production and green operation, promote low carbon growth, sincerely fulfill our social responsibilities and make great efforts to balance economic growth, environmental protection and social welfare. We strive to achieve our vision of providing “Our Quality Energy for Your Blue Sea and Sky”.

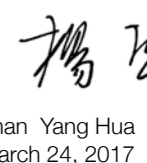
Ensuring Energy Supply and Seeking Development through Innovation: CNOOC always makes it a point to contribute high quality energy to the society as its duty. The Company's oil and gas exploration achieved outstanding results in 2016 and the newly discovered oil and gas reserves of domestic self-financed exploration continued to be kept at a high level. We also vigorously developed the LNG industry and strived to achieve the development and utilization of more clean energy. The completion rate of LNG imports reached up to 119%. Both gas and liquid distribution of LNG increased significantly. The Company further implemented the innovation-driven strategy. Taking the opportunity of the Eighth Conference of Science and Technology and the First Innovation Conference, CNOOC actively promoted scientific and technological innovation, management innovation and business model innovation for the optimization of a scientific research input mechanism and the establishment of an innovation fund for encouraging and facilitating internal entrepreneurship. The Company continued to carry on the “Quality and Benefit Year” 3.0 Edition with the standard of “Exquisite, Fine, Profound and Solid” and issued the 13th Five-Year Quality Plan of CNOOC. In 2016, CNOOC was ranked 30 in the Petroleum Intelligence Weekly (PIW) World's Top 50 Oil Companies.

Pursuing Green and Low Carbon Life for a More Beautiful China: CNOOC actively responds to Paris Agreement and positively copes with climate change, providing more clean energy represented by LNG. It also works for increasing the application of new technology for energy conservation and reducing emissions, so as to improve energy utilization efficiency and reduce greenhouse gases. Moreover, the Company attaches great importance to the protection of ecological diversity in areas surrounding the operation zone. It endeavours to create a better ecological environment for the development of a “Beautiful China”. The Company's subordinate enterprises of ethylene, methanol and synthetic ammonia have each won the national honorary title of “The Leader in Energy Efficiency”. Furthermore, the Company's energy conservation and emission reduction monitoring centre has been rated as the only “Industrial Energy Saving and Green Development Evaluation Centre” of China's oil and gas industry by the Ministry of Industry and Information Technology of China.

Gathering Blue Force to Highlight CNOOC's Responsibilities: As CNOOC's social responsibility, we strive to “repay the society with developmental outcomes”, besides facilitating the realization of a sustainable and harmonious coexistence of enterprises, environment and the society. We value human resource development and regard our employees as the most important resource and wealth of the enterprise. Therefore, we fully protect the legal rights of our employees and expand their scope of professional development, besides improving their working environment. In addition, we also focus on physical and mental health of our employees and make efforts to help them grow together with the enterprise. For more than 20 years, we have never ceased our responsibility to the society. For the purpose of “targeted poverty alleviation”, we have invested an accumulative poverty reduction fund of more than RMB 570 million to help implement poverty alleviation programmes and carry out targeted poverty alleviation in the fixed-point poverty alleviation cities and counties of Hainan Province, Gansu Province, Inner Mongolia Autonomous Region and Tibet Autonomous Region. We aim at accelerating the process of overcoming poverty and making the locals prosperous, thereby enhancing local “blood generation” capacity. We guide and encourage the employees to carry out voluntary service and remain committed to “serving the community, creating harmony and bringing benefits to the people”, while actively integrating into the communities through sharing their own resources. In addition, we also carry out the “co-construction of neighbourhood” activity and promote the national strategy of “maritime power”. Our voluntary activities have culminated into a “Blue Force”. In 2016, CNOOC's “Blue Force” was selected as one of the Ten major voluntary service brands of the central enterprises.

Expanding International Cooperation for In-Depth Global Integration: Having a business coverage of more than 30 countries and regions, with its products and services spreading throughout the five continents, CNOOC attaches great importance to the stable operation of overseas business and proactively conducts foreign cooperation to drive local socio-economic development. We have innovated the exploration and development mode of foreign cooperation blocks and have implemented the national strategy of “The Belt and Road Initiative” to further expand the Company's developmental space. CNOOC adheres to compliance operation overseas and takes an active part in the development of relevant laws of the countries and regions where it operates. It strictly observes the philosophy of safe production and works for enhancing its performance, besides promoting the culture of safe production. It has applied advanced technologies to its overseas projects, while it encourages independent innovation in overseas projects to overcome difficult scientific and technological problems. It has conducted in-depth studies on the impact of its operations on the ecosystem. In that context, it has also carried out systematic protection activities with the local environmental protection organizations. We actively promote the employees' localisation system and believe in building a cordial and harmonious employment culture. We maintain a good communication and cooperation mechanism with the government and the community, where we continuously and effectively carry out charity activities to jointly create sustainable development opportunities.

2017 is an important year for CNOOC to comprehensively implement “The 13th Five-Year Plan”. We have to work hard for improving our industrial core competitiveness while promoting the development of the first-class international energy company. Our aim is to benefit employees and the society, so as to achieve common development with the stakeholders for a better future.


 Chairman Yang Hua
 March 24, 2017



PRESIDENT'S LETTER

Dear all:

CNOOC adheres to the corporate social responsibility approach of “safe and efficient operations with low carbon and green growth, while remaining people-oriented, innovative, compassionate and transparent”. We thoroughly fulfilled our economic, environmental and social responsibilities by “Promoting Economic Growth, Enhancing Environmental Protection and Improving Social Progress”, treating these principles as the main path for the Company to actualise sustainable development.

Ensuring Safe Production and Business Operations for Promoting Economic Growth: In pursuit of its economic responsibilities, the Company endeavours to consolidate its resource base and steadily enhance its quality and effectiveness. Our aim is to ensure safe and stable production the entire year and we have achieved unexpectedly high operational performance. Our annual production of crude oil was 76.97 million tons, while natural gas production stood at 24.52 billion m³, processed crude oil at 32.29 million tons, refined oil production at 7.38 million tons, imported LNG at 16.52 million tons and natural gas-fired power at 21.5 billion kWh. The Company focuses on enhancing scientific and technological innovation for the development of vital technologies for heavy oil and low permeability, besides working on deep water exploration. It comprehensively implements the “13th Five-Year” science and technology plan, while extensively promoting “New Ideas, New Technology and New Approach along with Simplification, Standardization and Domestication”. The Company’s project of “Major Breakthrough in Epicontinental Deepwater Oil and Gas Geological Theory and Technology Innovation and Exploration in the Northern South China Sea” has won the second prize at the State Scientific and Technological Progress Awards while the key research projects have achieved substantial breakthroughs. Many major scientific research technological projects have achieved positive progress. We have managed to maintain the level of overall stability for safe production, besides upgrading the entire edition of QHSE internal control system, perfecting the establishment of safety training system and implementing the main responsibility of serious and safe production. Moreover, we have publicized the CNOOC Safety Standard Behaviours. Furthermore, we have scientifically planned safe production management, intensified supervision measures, effectively reduced the occurrence of major accidents, constantly perfected the emergency management

mechanism, integrated emergency management information system. Since the quality of management was improved effectively, we established a comprehensive quality management system and issued and implemented CNOOC “13th Five-Year” Quality Plan. We carry forward the “spirit of craftsmanship” and forge the world-renowned brand by providing quality products and services. Our “Hai Yang Shi You 981” Platform has won the “China Quality Award”, the highest honour in Chinese quality field, and the Zhuhai LNG has won the “Golden Shielded Reward” of national quality project.

Aiming at Green and Sustainable Development to Strengthen Environmental Protection: CNOOC adheres to the principles of environmental protection throughout its project life cycle. In 2016, the Company strengthened the standardized management of environmental protection and issued multiple special work guidelines. It was appointed by the Ministry of Industry and Information Technology of China to introduce the experience of constructing green factories and participate in drafting industrial standards. It has also proactively coped with climatic changes and researching CCUS, besides enhancing carbon inventory and carbon trading, promoting the application of carbon reduction technology with compliance and contract fulfillment. Moreover, the Company adopted measures for water reuse, seawater desalination, etc. and saved 674,000 tons of water resources in the entire year. Besides, it also remained engaged in energy conservation and emission reduction efforts in the various areas of production, circulation and consumption, etc., achieving the total annual standard coal savings to 230,000 tons. CNOOC attaches great importance to protecting the ecological diversity in the areas surrounding the operation zones and promotes resource restoration and environmental improvement. It has established characteristic projects, such as “Protection of Leopard Seal”, “Enhancement and Release Activities” and “Protection of Chinese White Dolphins”. The Company has positively participated in propagating environmental protection, making great efforts for creating better ecological conditions for a Beautiful China.

Fulfilling Responsibilities towards Employees and the Society to Promote Social Progress: In pursuit of our “people-oriented” philosophy, we strongly believe in guaranteeing our employees’ legal rights, professional development and occupational health, while fulfilling our corporate responsibility to the staff. We have been persistently carrying out a variety of colourful staff caring activities, paying attention to supporting employees with living difficulties. CNOOC Marine Environmental and Ecological Protection Public Welfare Foundation is regarded as the unified management platform for public welfare programmes. We have made efforts for fixed-point poverty alleviation, student care, special public welfare and other philanthropies, so as to effectively help the recipients improve their living environment, education and healthcare. CNOOC actively commits to serving the community, creating harmony and benefiting the masses while establishing a mechanism of communicating with the communities and sharing our resources with them. We constantly carry out heart-warming projects to jointly build a beautiful home. We encourage our employees to actively participate in voluntary services. We have launched large-scale surveys besides initiating small-scale welfare initiatives, such as “BlueForce, Love Marine”. CNOOC was awarded the title of “2016 Welfare Enterprise in China” at the annual meeting of China Public Welfare in 2016.

Ensuring the Stability of Foreign Businesses for Fulfilling International Responsibilities: CNOOC always places emphasis on the compliance operation of international business. Our products and services are marketed at home and abroad. We went to the North Pole for operation and set multiple records. We have also promoted the systematic development of safe production overseas. We have carried out technical innovation and cooperation, summarized multiple achievements of the scientific research of the overseas projects and applied for many patents. We have operated in strict accordance with the biodiversity protection rules of the United Nations and the countries where we operate. We have also cooperated with the local environmental protection organizations to systematically carry out protection activities. Moreover, we are concerned about the professional development and occupational health of our overseas staff. Pertinently fulfilling our overseas responsibilities, we have established and maintained a good communication and cooperation mechanism with the local communities. We have widely conducted effective charitable activities to help the locals improve their living conditions and education level.

Dear friends, we harvested support and trust in 2016. Looking forward to 2017, we will work together to seize the opportunities, rise up to the challenges and firmly forge ahead against all hurdles. We will promote mutual progress of economy, environment and the society through exceptional operations and strive to supply quality energy to the society for the construction of a better future!

President Liu Jian
March 24, 2017

CONTENTS

Chairman's Letter	02
President's Letter	04
About Us	08
Key Performance Indicators	09
Stakeholders	10

General



Promoting Economic Growth
[P12-35]



Enhancing Environmental Protection
[P36-49]



Driving Social Progress
[P50-66]



CSR Report Overseas
[P67-83]

Outlook on 2017	84
Third-party Assessment	86
Glossary of Terms	88
Index of Reporting Indicators	90
Feedback Form	92

Annex



Stakeholders' Concerns

Ensuring Energy Supply	14
Emphasizing Sci-Tech Innovation	22
Intensifying Safe Operation	26
Improving Quality Management	33

Stakeholders' Concerns

Green Operation	38
Tackling Climate Change	39
Water Resource Management	40
Energy Conservation and Emission Reduction	42
Biodiversity Conservation	46

Stakeholders' Concerns

Employee Development	52
Humanitarian Engagement	60
Voluntary Service	61
Integration into the Community	66

Stakeholders' Concerns

Economic Growth Overseas	69
Environmental Protection Overseas	77
Social Progress Overseas	80

Our Vision

Energy for All

Operational Philosophy

- People-oriented
- Responsibilities
- Win-win benefits
- Credibility
- Innovation

safe and efficient operations

low carbon and green growth

people-oriented

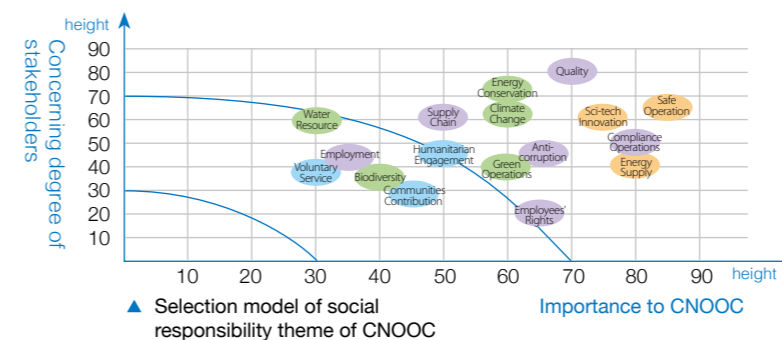
Social Responsibility Ethos

openness and transparency

charitable giving

courage to innovate

Theme Recognition



Information Disclosure



ABOUT US

Company Overview

China National Offshore Oil Corporation, the largest offshore oil and gas producer in China, is a state-owned mega company operating under the control of the State-owned Assets Supervision and Administration Commission of the State Council of the People's Republic of China (SASAC).

Headquartered in Beijing, CNOOC was founded in 1982. After more than 30 years of reform and development, it has become an international energy company with prominent primary business, a complete industrial chain and business spreading across 30 countries and regions. The five main business segments of the Company are oil & gas exploration and development; professional technical services; refining sales and fertilizers; natural gas and power generation; financial services. In 2016, it was ranked 109th in Fortune Global 500 and 30th in Petroleum Intelligence Weekly (PIW)'s World's Top 50 Oil Companies, respectively down by 37 slots and up by 2 from the previous year. By the end of 2016, Moody's and Standard & Poor's rated the Company with credit ratings of Aa3 and A+.

Strategy of Sustainable Development

CNOOC shoulders the crucial mission of ensuring national energy security, developing marine resources and protecting marine ecology. CNOOC regards three elements "economy, environment and society" as the most solid cornerstone for energy development and value contribution.

The Company adheres to its corporate vision "Energy for All", insists on

the philosophy "people-oriented, responsibilities, win-win benefits, credibility and innovation" and our ethos in "safe and efficient operations, low carbon and green growth, people-oriented, courage to innovate, charitable giving, openness and transparency". The Company systematically built a CSR model on the lines of "economic growth, environmental protection and social progress". Moreover, the Company promptly evaluates, adjusts and improves the effectiveness and results of its sustainability strategy through benchmarking and making comparisons with global business leaders and historical data.

As a participant of the United Nations Global Compact, CNOOC has always been adhering the "Ten Principles". CNOOC always strives for a balance among economic growth, environmental protection and social progress, and is committed to "Providing Our Quality Energy for Your Blue Sea and Sky".

Compliance Operation

The Company constantly strengthens its internal control system of risk management. We started to review and optimize our internal control system in 2016. Moreover, CNOOC has strengthened the supervision and inspection of its subordinate units at all levels for strict rectification. We have also strengthened risk inspection in the key investment areas and integrated the risk management concept into the internal control system for the resolution of major risks. In this way, we have gradually put into place a "closed-loop" management system for risk prevention.

Internal Audit

The Company aims at "controlling risks, reducing costs, strengthening management and promoting development" for its internal audit. In 2016, 442 internal projects, 1,600 audit findings and 987 audit advices were completed. The audit reduced RMB 200 million of the cost of the Company's investment projects. In the meanwhile, joint domestic and foreign account book auditing deleted USD 44.0545 million and a total of RMB 190 million of funds were recovered through audit correction. At present, the Company's internal control is in a good condition, with an effective risk management system constantly in place.

Ethics

In pursuit of strengthening the Company's anti-corruption work, we have improved the setting for supervision, established separate supervision units in headquarters and key affiliated companies. Therein, we have created full-time and part-time posts for supervision and audit. Moreover, we have organized the affiliated companies to conduct internal patrol inspection for tracing the problems and acting as a deterrent, thereby urging them to deepen rectification, strengthen internal control, reinforce management and have their writ established in governing the enterprise. We adhere to "dealing seriously and strictly in the early period, while the case is small". We have dealt with cases violating laws and the Company's regulation with an iron hand, besides enhancing anti-corruption awareness on a daily basis and carrying out training for preventing crises before they emerge.

KEY PERFORMANCE INDICATORS

	Item	2014	2015	2016	2016 National Data	Source of National Data
Economic Growth	Crude Oil Production (10,000 tons)	6,868	7,970	7,697	19,969	NBS
	Yield of Natural Gas (hundred million m ³)	219	251	245	1,368	NBS
	LNG Imports (10,000 tons)	1,411	1,316	1,652		
	Crude Oil Refining Capacity (10,000 tons)	2,845	3,262	3,229		
	Crude Oil Trading Volume (10,000 tons)	4,951	5,616	7,941		
	Fuel Oil Production (10,000 tons)	672	576	435		
	Ethylene Production (10,000 tons)	103	90	107	1,781	NBS
	Methanol Production (10,000 tons)	155	156	151		
	Fertilizer Production (10,000 tons)	380	418	370	7,005	NBS
	Natural Gas-Fired Power Capacity (100 million kWh)	177	223	215	1,881	China Electricity Council
	Direct Contractor Casualties	2	2	2		
	Employee Casualties	1	0	5		
	Recordable Injury Events (case)	64	72	65		
	R & D Investments (100 million RMB)	33	31	21		
Environmental Protection	Science and Technology Employees (persons)	8,643	8,975	9,097		
	Granted Patents (awards)	833	999	834		
	Energy Conservation and Emission Reduction Investments (100 million RMB)	4.3	2.9	4.1		
	Energy Consumption per RMB 10,000 Turnover (ton of standard coal equivalent) ¹	0.2841	0.2731	0.3519 ¹		
	Energy Savings (10,000 tons of standard coal equivalent)	28.5	30.8	23.0		
	Sulfur Dioxide Gas Emission (tons)	12,376	8,844	5,796		
	Chemical Oxygen Demand (tons)	1,757	1,723	1,075		
Social Progress	Nitrogen Oxides Emission (tons)	18,015	15,187	10,654		
	Ammonia Nitrogen Emission (tons)	448	149	109		
	Staff Strength (10,000 persons) ²	12.3	11.8	10.6		
	Rate of Conclusion of Employment Contracts	100%	100%	100%		
	Rate of Social Insurance Coverage	100%	100%	100%		
	Percentage of Employees participated in Labor Union	100%	100%	100%		
	Employees' Satisfaction (10 scores)	7.82	7.74	7.62		
	Percentage of Female Employees	23%	24%	21%		
	Frequency of Occupational Disease	1	4	3		
	Rate of Physical Examination for Occupational Health	99.8%	99.6%	99.9%		
	Average Training Duration per Employee (hours)	87.5	81.3	86.0		
	Employee Turnover Rate	2.6%	7.4%	2.6%		
Charitable Donation (10,000 RMB)	11,672	16,822	13,608			
Profit and Tax (100 million RMB)	1,143	821	741			
Number of Foreign Employees	9,041	7,664	4,864			
Localization Rate of Overseas Employees	86%	85%	71%			

Note: ¹ The data of comprehensive energy consumption of production value per ten thousand RMB in 2016 was obtained from calculation by taking the data in 2015 as the comparable price base, and the data of 2014 and 2015 was obtained from calculation by taking the data of 2010 as the comparable price base;

² The Staff Strength included foreign employees.

STAKEHOLDERS

Our stakeholders include the government, employees, shareholders, customers, industry partners, suppliers, contractors, financial institutions, media, communities and non-governmental organisations (NGOs). We highly value communicating with our stakeholders and engage with them in an open and transparent manner. We keenly listen to them and take their opinions into account while formulating and implementing our strategies, policies and plans. We are able to achieve long-term and sustainable development with the trust and support of our stakeholders. We pay close attention to their concerns and exchange opinions via visits, exchanges, E-mails, telephone, international conferences, website, WeChat, micro-blogs, etc. We constantly optimize and update the disclosure information on the Company website and disclose to the stakeholders about the operation performance and social responsibility activities of the Company through annual reports, sustainability reports, and other periodical reports. We have established a special column of social responsibility on the company website to respond to the concerns of the stakeholders continuously and disclose the communications on social responsibility participated by the company management level and the exchange activities with the stakeholders through the channels including the company website and China Offshore Oil Press, etc. We hope to continuously strengthen the communication and cooperation with our stakeholders for jointly promoting the harmonious development of economy, environment and the society.



In 2016, we held several local and international activities on the theme of "Our Quality Energy for Your Blue Sea and Sky". We communicated with our stakeholders in the three dimensions of "Promoting Economic Growth, Enhancing Environmental Protection and Driving Social Progress". Opinions and suggestions from the stakeholders were incorporated to give an active response to their concerns.



▲ Chairman Yang Hua met Bob Dudley, BP Group CEO



▲ President Liu Jian met Sokawan, Secretary of State of Ministry of Mines and Energy of Cambodia



▲ CNOOC negotiated with Saudi Aramco



▲ CNOOC carried out anti-mine safety training for Iraqi local villages



▲ Canadian enterprise representatives visited CNOOC Industrial Exhibition Hall



▲ 26 Canadian enterprises participated in the CNOOC-sponsored the "3rd Business Promotion Activity for Canadian Small and Medium-Sized Enterprises in China"



▲ CNOOC communicated with Australian cooperative partners



▲ CNOOC discussed 2016 social responsibility themes with its stakeholders

PROMOTING ECONOMIC GROWTH

It is the responsibility and mission of CNOOC to contribute inexhaustible energy. Given the severe situation of the oil and gas industry, CNOOC facilitates economic growth through several measures. It actively copes with the serious challenge of low oil prices, insists on innovation, enhances oil and gas exploration and development, strengthens cost control, ensures energy security supply and attaches importance to the development and utilization of clean energy, such as natural gas. The Company strives for realizing the corporate value with more diversified, greener and environment-friendly energy products and services.



ENSURING ENERGY SUPPLY

Driven by global economic development and pursuit of high quality life for humans, the energy demand will continue to rise. In order to ensure uninterrupted energy supply and achieve environmental sustainability, China is transforming its energy structure by “substituting coal with gas”. There is still a wide space for the development of natural gas industry.

CNOOC believes that expanding the use of clean energy will be an important guarantee of building a beautiful China and promoting social sustainability. The Company has stepped up efforts in exploring the conventional oil and gas resources. It has been continuously developing unconventional gas, such as CBM (coalbed methane), tight gas. It has attached great importance to the development and utilization of clean energy, such as LNG (Liquefied Natural Gas), strived for enhancing its corporate value with more diversified, greener and environment-friendly energy products and services. In 2016, the annual production of crude oil was 76.97 million tons, while that of natural gas was 24.5 billion m³. The processing volume of crude oil stood at 32.29 million tons, refined oil product at 7.38 million tons, imported LNG at 16.52 million tons and natural gas-fired power at 21.5 billion kWh.

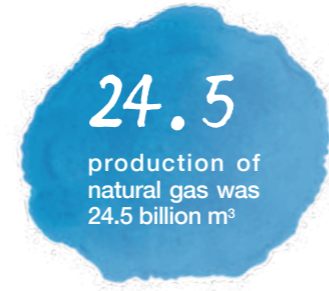
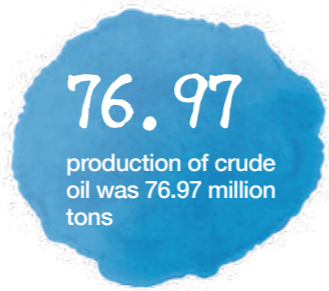
Oil and Gas Exploration

Being led by corporate development planning and guided by discovers of medium and large-scale oil and gas fields and optimizing its exploration investment portfolio, CNOOC has achieved breakthroughs in multiple regions, and has harvested fruitful results in oil and gas exploration. In 2016, the Company completed the evaluation of “Kenli 16-1”, “Caofeidian 12-6/6-2”, “Penglai 20-2/20-3”, and “Liuhua 21-2”, etc., with high efficiency. It has comprehensively promoted the integration of exploration and development and has obtained new reserves in such oilfields as “Jinzhou 25-1”, oilfield group in southwest Weizhou, “Wenchang 13-6”, “Panyu-4-1”, “Xijiang 30-1”, etc. It has achieved multiple commercial discoveries overseas and has successfully evaluated the oil and gas bearing structures in Libra Project of Brazil and other projects.

📌 Natural gas field was discovered in 1,688-metre ultra-deepwater of South China Sea

In February 2016, the oil and gas reserves evaluation office of the Ministry of Land and Resources confirmed that the natural gas field, namely “Lingshui 18-1”, which CNOOC discovered during the exploration of 1,688-metre ultra-deepwater in western South China Sea, was the first ultra-deepwater natural gas field in China.

The extremely low temperature in the ultra-deepwater seabed (2.6°C) and the extremely high bottom-hole absolute pressure (30.9MPa) set higher requirements for the well drilling technology and drilling device, greatly increasing the difficulty in drilling. The successful exploration of “Lingshui 18-1” displayed CNOOC’s ability of ultra-deepwater exploration of drilling and testing, taking the level of its offshore oil and gas exploration to a historic high.



Oil and Gas Production

In order to ensure national energy security, CNOOC actively responds to the internal and external challenges in the low oil price environment. The Company adopts safe, efficient and precise management for oil and gas production and continues to maintain the high production percentage and high utilization rate of the well. It has been deeply optimizing technical proposals and the investment for 9 optimized projects dropped by 46%. It also optimized the contract model as the operating cost per barrel reduced continuously for three consecutive years while various indicators remained at the forefront in the industry. It aims at promoting innovative commercial mode of cooperative development of trial oilfields, besides making great efforts to settle problems of coordinated development and consolidating the developmental foundation of yield stabilisation and increase in the “13th Five-Year Plan”. In 2016, the domestic production of crude oil was 45.55 million tons while that of natural gas was 12.92 billion m³ (in which CBM was 0.94 billion m³).

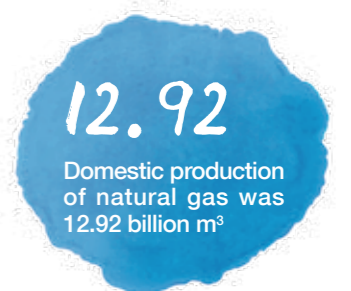
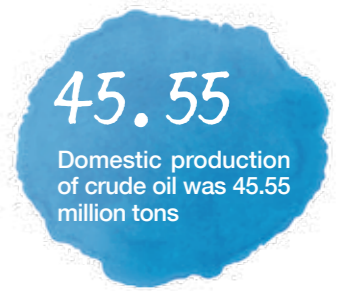
📌 Stable production of Bohai Oilfield exceeded 30 million m³ for seven years consecutively

In 2016, Bohai Oilfield strengthened technical innovation and implemented a series of stimulation measures, including acidification separating deployment of 885 injection wells, and enlarged the scale of well development and well adjustment, so as to effectively control the composite declining rate of the main maturing oilfields within 10%. It set a new record of stable production of Bohai Oilfield, exceeding 30 million m³ for seven years consecutively.



📌 “Enping 24-2” Oilfield became the largest extra-production oilfield in eastern South China Sea

The Enping Oilfield group in eastern South China Sea was implemented regional joint development with the existing production facilities based on the “Enping 24-2” Platform. The “Enping 18-1” and “Enping 23-1” Oilfields were put into operation successively. The high-efficient operation and safe running of the oilfield group has been ensured and the continuous high and stable yield is achieved through delicacy management of the well, scientific arrangement of well production, optimization of the planned shutdown period and strengthening implementation of operating procedure. “Enping 24-2” has become the single oilfield with maximum yield in the eastern South China Sea for two consecutive years. In addition, their production time efficiency reached up to 99.01% and 98.04% respectively.



📌 Gas supply to Hong Kong and Hainan added up to more than 50 billion m³

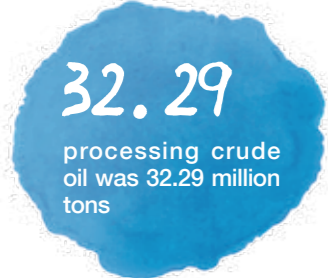
The largest offshore cooperation gas field in China, namely “Yacheng 13-1”, located in southwest Hainan Island has been operated for 20 years and continuously supplies clean energy to Hong Kong and Hainan. It developed the domestic jetting system through innovation, using the return air of the dry gas compressor as the high pressure gas source for fluidics. As a result, the daily output of the low pressure and inefficient well was increased by 70,000-100,000 m³. By the end of 2016, it had supplied more than 50 billion m³ gas accumulatively to Hong Kong and Hainan and contributed a great deal to the economic and social development of both regions.

Refining and Chemical Production

The Company insists on the value maximization of refining production overall. It fully displays the advantage of production and marketing integration, cultivates the internal strength and strengthens the production planning management, so as to ensure stable and high-efficient operation of the production facilities. In 2016, the Company accumulatively processed 32.29 million tons of crude oil, produced 7.38 million tons of refined oil products, 1.07 million tons of ethylene, 8.43 million tons of asphalt, 770,000 tons of lubricants, 2.25 million tons of sodium carbonate and 3.7 million tons of chemical fertilizers.

The Company was highly appraised by the National Energy Administration for upgrading the oil quality ahead of schedule. Moreover, the following 4 new projects were completed and successfully started up in one go. The comprehensive utilization of acidification heavy oil and product quality upgrading project of Zhongli Company; the mechanical completion of safe, environment-friendly and clean energy upgrading project of Zhongjie Petrochemical; the comprehensive utilization of distillate in Daxie Petrochemical and the integration project of Taizhou Petrochemical.

The Company adjusts its product structure according to the market efficiency and develops a variety of new products. It makes good use of the excess capacity of the styrene plant and increases the production of high-grade, high value-added rubber oil, transformer oil and special asphalt products. In 2016, the Company produced accumulatively naphtha up to 1.68 million tons, jet fuel 2.28 million tons.



Daxie Petrochemical's project of efficient utilization of distillate was put into operation smoothly

Daxie Petrochemical's project of efficient utilization of distillate which can satisfy the growing demand in the petrochemical markets in Zhejiang province and its surrounding areas, was formally put into operation. This is CNOOC's landmark project for promoting the layout in the Yangtze River Delta, Pearl River Delta and the Bohai Bay region, besides achieving the intensive optimization of resource allocation and intensive management. The operation of this project marks that Daxie Petrochemical has taken a new leap forward in its comprehensive processing capacity of crude oil, product structure, product quality, energy conservation, environmental protection and other aspects. In addition, it will boost the transformation and upgrade of local petrochemical industry for diversification, intensification and integration, resulting in low-carbon, intensive and environment friendly resource utilization.

Installation of heavy equipments of the Phase II Project of Huizhou Refinery was completed

After the hoisting of synthetic gas re-absorber of the largest coal-to-hydrogen plant self-designed and constructed in China, the lifting and installation of heavy equipment of Phase II Project of Huizhou Refinery CNOOC was completed. The construction and operation of the Phase II Project of Huizhou Refinery will boost the development of petrochemical industry to a high level and high-end, boosting cluster development to better serve the ever-increasing demand for high-end petrochemical products in the Pearl River Delta and the entire country.



Taizhou Petrochemical's paraffinic lubricating oil hydrocracking unit with annual capacity of 400,000 tons was formally put into operation

Taizhou Petrochemical's paraffinic lubricating oil hydrocracking unit with annual capacity of 400,000 tons was formally put into operation and it has successfully produced qualified base oils. Taizhou Petrochemical is the only refinery base with both naphthenic and paraffinic lubricating oil hydrocracking units in China. This project is expected to promote the industrial restructuring of petrochemical industry in eastern China.



Service Network

CNOOC always regards customer satisfaction as an important indicator to measure service quality. It attaches great importance to the protection of its customers' information and makes endeavours to achieve mutual benefit and win-win result with the customers by continuously enhancing its service capability, constantly improving customer satisfaction, and striving for 100% resolution rate of customer complaints.

In order to allow its customers to enjoy its products and services, CNOOC strives to build a service network centring on "Yangtze River Delta, Pearl River Delta and the Bohai Bay region". It continuously explores new service modes and strengthens the construction of service stations, gas stations, bulk plants, LNG receiving terminals and gas pipelines. By the end of 2016, the Company owned 828 service stations, 206 gas stations, 7 LNG receiving terminals and 4,536 kilometres of onshore gas pipelines.

Petroleum Products Supply

In 2016, CNOOC Oil & Petrochemicals Co.,Ltd. optimized and reorganized its sales system, implemented the optimal arrangement of "resource, market and efficiency" in the regional market centred on refinery, and applied the operational mechanism of "close to market, close to refinery and close to the government". These measures significantly improved the operational efficiency of integrated production management and marketing. The Company aims at constantly enriching new products through development of high-grade and high value-added rubber oil, transformer oil, lubricating oil and special asphalt products, while gradually broadening the service networks of petroleum products, such as asphalt, lubricants and fuel oil. The Company has won accolades from its customers by virtue of its quality oil products of State-V standard, upgraded service stations and thoughtful services. By the end of 2016, CNOOC Oil & Petrochemicals Co.,Ltd. had sold 14.65 million tons of refined oil and added 89 service stations under its belt.

Online fuel and gas filling E-card

On October 12, 2016, the Information Department of CNOOC completed the online inspection of the trial project of retail management system of gas stations and service stations. It marked the completion of all 53 gas stations planned to be online. The project is aimed to establish a set of retail management system shared by fuel and gas filling through integration of HOS system of headquarters level, card system, station level system and natural gas dispenser/refuelling machine, thereby realizing the retail and payment integrated management of filling blocks.

It actively establishes Micro-Marketing Platform of refined petroleum products

CNOOC Oil & Petrochemicals Co., Ltd positively changes its operational concept for realizing an overall transformation from the traditional operation mode to an all-channel resources integration through building smart service stations. The company cooperates with internet-based enterprises, such as “Weicheche”, “WeChat Public Number”, “WeChat Pay” and “Baidu Map”, to build a comprehensive service platform of “Internet +” Service Station. It constructs people and vehicle-oriented CNOOC ecosystem by integrating the internal resources of CNOOC and third party’s resources, thereby connecting “people”, “vehicle” and “life”.

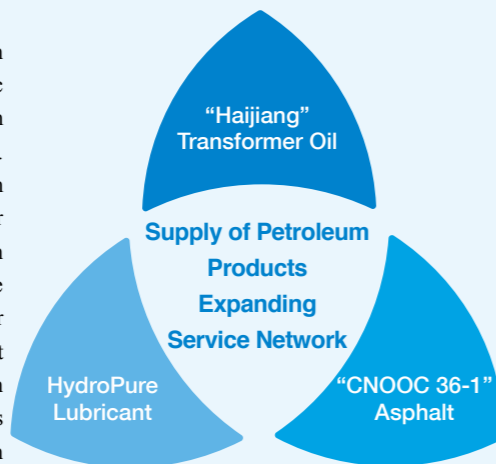


CNOOC expands direct supply channels of jet fuel

On September 30, 2016, a truck full of jet fuel products of CNOOC Huizhou Refinery left the loading jack of the company for Guangzhou Baiyun International Airport. It marked the successful opening of CNOOC’s jet fuel automotive transportation direct-supply channel to Guangzhou Baiyun International Airport, which is the third stable direct-supply airport of CNOOC jet fuel automotive transportation after Ganzhou Airport and Huizhou Airport.

“Haijiang” transformer oil provides support for electrical utilities

“Haijiang” transformer oil has been sold in many areas of China as this first domestic product actualised the sales of more than 100,000 tons in two consecutive years. This product can be regarded as a green and environment-friendly product per European Union (EU)’s regulation on environmental protection. It has become the second largest domestic transformer oil production plant to provide support for the Chinese electrical utilities. In addition, the transformer oil products are exported to Uzbekistan, Kazakhstan and other countries for the electric power construction of the “Silk Road Economic Belt”.



Asphalt from “CNOOC 36-1” was applied in Tibet

In 2016, the asphalt produced from “CNOOC 36-1” successfully made its way to 14 roads with high altitude and harsh climate, including the Tibetan highway, national and provincial trunk road and rural highway. The CNOOC asphalt has 28 grades to adapt to the temperature range from -30°C to 40°C and the altitude of 4,000 m. It is one of the top brands of heavy asphalt in China.

“HydroPure” lubricant fully launched in the terminal market

In 2016, CNOOC’s high-end lubricant brand “HydroPure” was launched for sale in the terminal markets. The product features a complete series of lubricants, including automotive oil, bunker oil, industrial gear oil, hydraulic fluid and lubricating grease. Its quality meets the standards and requirements jointly set by organisations such as International Standard Organisation (ISO), vehicle and engine manufacturer (EOLCS), Society of Automotive Engineers (SAE) and American Society for Testing and Materials (ASTM). The product series has passed the OEM technical certification of multiple companies, such as Benz, Volvo, VW and MAN.



90
natural gas business was distributed in 90 prefecture-level cities of China

27.8
LNG receiving capacity was 27.8 million tons/year

Extension of gas supply network

CNOOC Gas & Power Group engaged in network extension on the basis of building the original and consolidating the existing gas supply networks. In 2016, CNOOC Gas & Power Group extended the network coverage from the eastern coast of Hainan Island to the hinterland of Wenchang Tourism Expressway, Gusong Road branch, Caihong South Road branch and Guanglan Road branch, among others, laying a solid foundation for the long-term and stable gas supply to the Wenchang satellite launch base. It also extended the supply network from Yangtze River Delta to the Dabie Mountain area located at the junction of Hubei Province, Henan Province and Anhui Province. It reached a formal cooperation agreement of natural gas supply and technical support of industrial gas station with Anhui Kangtai Glass Technology Co., Ltd. to realize the LNG supply to Dabie Mountain of CNOOC for the first time.

Natural Gas Supply

Centred on the Yangtze River Delta, Pearl River Delta and Bohai Bay, the development of natural gas supply network is a continuous task for CNOOC, which is focused on actively building LNG receiving terminals, natural gas pipelines and gas stations, striving for opening up the coastal natural gas as the main artery and providing sustainable economic development with clean energy. By the end of 2016, the natural gas business of CNOOC had been distributed in 90 prefecture level cities in 20 provinces while its LNG receiving capacity reached up to 27.8 million tons per year.

CNOOC has stepped up efforts for marketing development and is actively seeking new growth points in natural gas industry while employing innovative marketing modes, such as electricity-sale company, natural gas distributed energy, “Internet+” and others, while keeping the advantage of natural gas markets in southeast coastal areas, the Company constantly expands its business into northern and inland area, realizing the expansion from coastal region to inland and from first-tier cities to second-tier cities. It strengthens the liquid distribution of LNG, pays attention to small and medium end users and establishes direct marketing channel to the terminal market. Moreover, it is rapidly developing LNG filling business and continuing its work on replacing diesel with gas for inland waterway vessels, constructing LNG stations and LNG exemplary ship, etc. in the major river systems of Yangtze River, Zhujiang River and Beijing-Hanzhou Canal, thereby striving for strengthening its leading position in domestic LNG industry.

CNOOC becomes the first to publicize information about natural gas infrastructure

Completely meeting the national information disclosure standards, CNOOC Gas & Power Group proactively issued Announcement on Publicizing the Relevant Information of Opening-Up Natural Gas Facilities of Gas & Power Group to disclose information on the natural gas pipeline network and the LNG receiving terminal facilities. CNOOC always adheres to the win-win concept of fully promoting fairness in opening-up of natural gas infrastructure, actively checking and publicizing the pipeline network information to contribute to the market-oriented reform of natural gas.



LNG imports exceeded 100 million tons in total

CNOOC has imported a total of 100 million tons of LNG for 10 years, which is equivalent to 140 billion m³ of natural gas and 130 million tons of crude oil calculated by thermal value, which is about a quarter of the oil consumption of China in 2015. As many as 100 million tons of LNG can help China in reducing 380 million tons of CO₂ emissions. Its function equals planting 800 million trees. In addition, it can also help in reducing emission of 3.1 million tons of SO₂, 27.5 million tons of NO_x and 1.75 million tons of smoke and dust pollution, which plays an important role in treatment of haze and has significant low carbon, green and environment-friendly effects.

Tianjin LNG alternative project ensures gas supply for heating systems in winters

The operation of Tianjin LNG substitutional project displays its capacity of independent, stable and continuous gas transmission. It is estimated that Tianjin LNG would transmit 800 million m³ of natural gas to Beijing-Tianjin-Hebei region with the daily supply reaching up to 30 million m³ in peak time throughout the whole heating season. While passing on warmth to the local residents, the natural gas can also significantly reduce the harmful exhaust gas emissions, such as CO₂, SO₂ and NO_x.



Putian Power Plant powers up G20 Summit

Being the backbone peaking power plant in the East China power system and the eastern load centre of Fujian power grid, Putian Power Plant offered all-out support for ensuring safe and smooth operation of the generator units during the G20 Summit. The accumulative generating capacity of Putian Power Plant is 2.651 billion kWh, while it ensures the accumulative reduction of CO₂ emission by 1.2 million tons, thereby significantly contributing to the green ecology of eastern China.

Zhejiang LNG Company addresses gas rainstorm

During mid-to-late July 2016, the natural gas supply was cut off as the pipelines were fractured and displaced because of landslide caused by several days of insistent heavy rains. Zhejiang Province experienced a huge natural gas shortfall of 6 million m³ per day. Coming to the rescue, Zhejiang LNG Receiving Terminal of CNOOC Gas & Power Group immediately opened multiple LNG seawater vaporisers to increase the send out rates successively twice, meeting the extremely urgent needs for natural gas in the downstream pipeline network. Zhejiang LNG has repeatedly shouldered the responsibility of emergency gas supply in the events of extreme weather conditions and gas pipeline accidents, with the maximum peak-to-valley ratio of monthly gas supply reaching up to 56:1. It has set the highest record of 14 million m³ daily supply which is more than half of the daily gas consumption of Zhejiang Province. It has a remarkable advantage in its peaking capacity.

supply needs after outage caused by

Supply Chain Management

CNOOC maintains a prudent manner and strict standards in terms of selecting suppliers and contractors, valuing much their concepts and actions in fulfilling the social responsibilities. CNOOC upholds the idea of “cooperation for win-win results and common development”, thus realizing a whole process dynamic management on the supply chain, and ensuring 100% compliance of economic contracts.

The Company, based on “open, fair and transparent” bidding principles, applies online and offline transaction to strengthen whole process management in bidding admittance, product and service quality management, performance assessment and elimination of disqualified suppliers and contractors, preventing and solving the risk of supply chain. In 2016, the Company deleted 203 suppliers, because of violating the regulation, large risk and disqualified performance, and ensured 100% certification of quality and HSE management system of suppliers and contractors. It constructed the diving contractors management information system and checked the safety qualification of 10 diving contractors, carried out inspection of diving emergency on-site to increase the safety management level of diving contractors.



Strengthening Centralized Procurement Management

The Company established strategic cooperation relations with the suppliers and contractors who have made excellent performances for years, through the comprehensive evaluation of qualification, achievement, risk management and control, process control, quality management competence, personnel competence and technical qualification, as well as HSE management. It proactively communicates and discusses the latest technological trend and management practice with the suppliers and contractors to lay the foundation of fair and transparent procurement and win-win cooperation of both parties.

Promotion of localization

The Company encourages and promotes the relevant domestic enterprises to intensify R & D and investment of the new products, new technologies and new processes through vigorously promotion of the work of “new ideas, new technology and new approaches, simplification, standardization and localization” so that a batch of domestic manufacturing enterprises have the strength to compete with the foreign renowned enterprises. It successfully realized the localization of a batch of key equipments and materials including Ni9 steel, offshore crane and umbilical cable, etc. by means of joint research and development, tackling key problems together with the domestic units.

Practising public bidding

The electronic bidding platform is applied to provide open and fair participation opportunities for suppliers/contractors. The suppliers are required to operate according to the laws, to be honest and faithful, perform their social responsibilities seriously in the various links. The suppliers are required to pay attention to the requirements in the aspects of HSE and have obtained the corresponding certificates. The QHSE assessment weightings of suppliers have increased from 10-15% to 15-20%. The Company adopted the measures of providing quality commitment through suppliers and implementing in-factory supervision of important products as well as sampling quality inspection of the products to prevent and eliminate quality risks.

Optimization of the refining and petrochemical supplier data base

In 2016, CNOOC Oil & Petrochemicals Co.,Ltd started the work of integrating five supplier data bases. After integration, the optimized supplier data base has 5,737 suppliers, and the supplier data importing standards were unified and improved. It realized the standardized and high standard management of suppliers and fully implemented the supplier management requirement of “two-level management and intensive development”.

The purchasing efficiency of Bohai Oilfield increased by more than 15%

In 2016, all the 24 oil and gas production units of Bohai Oilfield realized the online management of remote logistics business system. Bohai Oilfield completed process optimization of the material supply chain and achieved the business objectives of reverse potential inventory optimization and solidification of consignment and purchasing process by changing the supply strategies, intensifying schedule management and shifting operation mode. The material supply time efficiency improved significantly and the efficiency increased by more than 15%.

“Thanks to the cooperation with CNOOC, we have a deeper understanding of API and ACME standards, our company’s size doubled and 13 sets of equipments were added. The utilization rate of the machining equipment increased from 15% to 60%.”

—Yang Jingtang, Xi’an Andeli Oil Technology Development Co., Ltd.

EMPHASIZING SCI-TECH INNOVATION

Technical Innovation

The technological innovation is a strategic driving force for an enterprise's sustainable development. Serving as an international energy company, CNOOC is making efforts to improve the sci-tech innovation system, encourage sci-tech development and innovation and explore new-type ocean energies continuously based on the oil and gas business and driven by the technological innovation, with a view to providing the clean energy for sustainable development of the economy, society and environment.

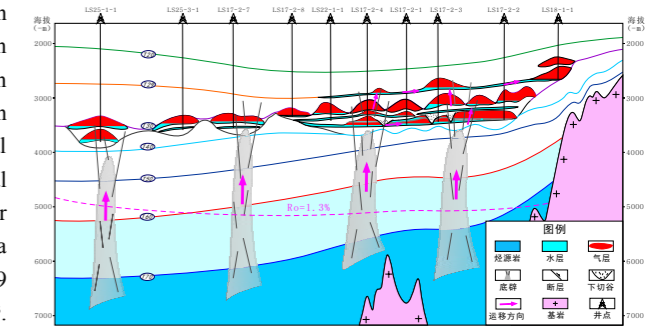
In 2016, the Company implemented the "improving innovation and entrepreneurship" spirit and convened the 8th Sci-Tech Conference of CNOOC and the First Innovation Conference. "Major breakthroughs on Epicontinental Deepwater Gas and Oil Geological Theory and Technological Innovation and Exploration in the North of South China Sea" won the second prize of the National Scientific and Technological Progress Award. There were 834 authorized patents obtained for the whole year, in which 452 were the authorized patents for invention.



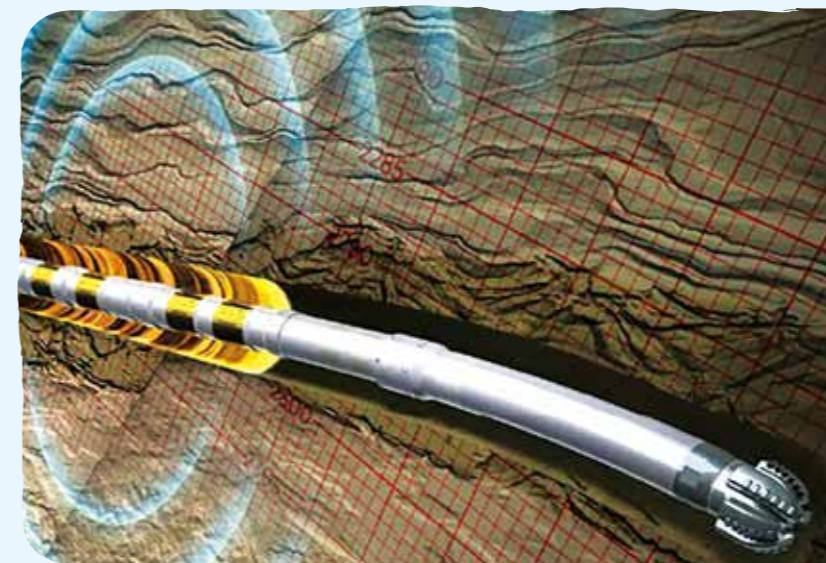
Project Name	Main Achievement
Key vector processing technologies for multi-component seismic data	Completed the seismic data processing in Bohai and Weixian region over 200 km ² and the imaging was significantly improved.
Interpretation technology of time-lapse seismic difference	Successfully applied to the time-lapse data processing of "Xijiang 24-1" oilfield, the consistency of the time-lapse seismic marker layer reached 96%
The research achievement on paleogene "clastic-carbonate deposits" high quality reservoir and analysis on its exploration potential in Bohai offshore.	Guided the projects of "Lvda 16-3N", "Bozhong 27-2", and "Kenli 16-1" to achieve the key exploration goal
Comprehension interpretation and evaluation technology of well logging at water flooded layer based on the dynamic mixed conductive model	Applied to the evaluation of the oilfield water flooded reservoir of "Weizhou 12-1" and successfully guided the adjustment of drilling of the oilfield of "Wenchang 13-1/2"
Independent development of large flow downhole oil and water separation technology with the processing load of 12 million m ³ per day	Successfully applied to Bohai Oilfield, broke the international technical monopoly and filled the domestic gap in this field
Predication technology of driving and pulling of the pile in self-elevating drilling platform	Applied in the field operation of 8 oil and gas fields in the waters at home and abroad and 5 preliminary research projects
Intelligent testing and regulation technological achievement of water injection well in the offshore oilfield	Applied in 4 wells of Bohai Oilfield with the testing and regulation efficiency increased for more than 5 times
Key technological achievement of debriscarrying drilling of high angle deviated well	Successfully applied in 14 high angle deviated wells in "Jinzhou 25-1" Oilfield with the drilling operation safety increased greatly
Independent development of integrated casing sidetracking tools	Broke the foreign technical monopoly and reduced the operation cost for more than 20%
Successful development of production and application technology of TS series oilfield water treatment chemicals	Widely applied in multiple oilfields like Liuhua Oilfield
Independent development of TH series hydrogenation catalyst	Applied in the internal and external refineries of the systems like Zhoushan petrochemical
Successful development of the first domestic submersible pump in large-scale LNG storage tank with self-owned intellectual property	Applied in the Guangxi LNG projects

Major breakthroughs in epicontinental deepwater gas and oil geological theory and technological innovation and exploration in the North of South China Sea

CNOOC established the gas and oil geological theory of "basin formation-hydrocarbon generation-reservoir forming" in epicontinental deepwater detachment basins in the north of South China Sea and achieved major innovations of key technologies in deepwater exploration through hard work to tackle difficult technical problems one after another and made breakthroughs in traditional understanding of deepwater oil and gas geology. It achieved major historical breakthroughs in deepwater oil and gas exploration in China with accumulative proven natural gas geological reserves of 300.09 billion m³ and the crude oil geological reserves of 68.2996 million m³. In 2016, the result won the second prize of the National Scientific and Technological Progress Award.



▲ Gas field reservoir of "Lingshui17-2"



Breakthroughs in key technological research on domestic design and manufacturing of subsea christmas tree

CNOOC developed the standby subsea christmas tree applicable to "Panyu 35-2/35-1" underwater gas field with the water depth of 1,500 meters for the first time in China, which reaches the international advanced level of similar products and fills the gap of domestic underwater christmas tree manufacturing and testing system.

The construction of Chinese first 160,000 m³ large-scale LNG full containment storage tank project with independently developed technology started

The construction of the 2 newly-added 160,000 m³ LNG storage tanks formally started in Fujian LNG Receiving Terminal. This is the first 160,000 m³ large-scale full containment storage tank construction project designed, constructed and managed with completely independently developed technologies in China, marking that China has achieved fully independent development capacity for the large-scale LNG full containment storage tank technology. CNOOC has become the first energy company with the core storage tank technology and EPC contracting capacity in Asia.

Self-developed Snake Xenzia completed its offshore debut

Independently developed by CNOOC, Drilog[®] 800 LWD and Wellleader[®] 950 RSS, also known as the "Snake Xenzia" in drilling industry, completed its offshore debut with success. Specialized in real-time controlling of well trajectory with high precision and high performance towards reservoir, which helps boost the operation capacity with self-developed tools and speed up the transformation of scientific research.

Significant breakthrough in the development technology of naphthenic base transformer oil

In 2016, CNOOC successfully developed the technology of producing the base oil of transformer oil with complete hydrogenation type process and solvent refining technique and the high efficient compound additive formula. The development of part of the process fills the technology gap in China. The key technology of general naphthenic base transformer oil achieved successfully industrial conversion which efficiently improved the added value of "Haijiang" transformer oil products.

Significant breakthrough in well completion and sand control technology

In 2016, the domestic developed sand control tool independently researched by CNOOC was successfully used in B54 Well of “Kenli 10-1” Oilfield which is the sand controlled well with the longest central sand control string in China so far. The process of six layers sand control for one-trip running of the tool was implemented for the first time, which is widely considered as extremely difficult in the operation in the global industries. The success of this operation marked the major breakthrough in the well completion and sand control technology in China.



Aromatic hydrocarbon refining agent independently developed by CNOOC successfully realized industrialization

In 2016, “A Type of Preparation Method of Olefin Removal Refining Agent” of CNOOC EnerTech won the 18th China Patent Excellence Award. The aromatic hydrocarbon refining agent produced by the result of this patent has become the first industrialized petrochemical catalyst independently developed by CNOOC, providing powerful technical support for the upgrade of the aromatic hydrocarbon industry in China, and has created the sales revenue of RMB 300 million since the patented technology was applied for 5 years.

Pioneering Innovation

CNOOC carried out a sustainable exploration and research of the natural gas hydrate, marine tidal current energy, ocean thermal energy, hydrogen energy and other new type low carbon and green energies. The Company supported the research, development and incubation of the leading energy technologies such as low cost production and application technology of the new material of graphene on the basis of science and technology projects. Several significant projects at national level undertaken by the Company have acquired positive progress.

Marine energy resources development and utilization technology

In order to develop the marine energy and improve the energy structure, CNOOC completed the “demonstration project of 500 kW marine energy independent electric power system” which achieved many records in China, that is, the independent electric power system of multi-energy complement of ocean tidal current energy, wind energy and solar energy with the largest total installed power, the first 100 kW class of floating type horizontal axis tidal current energy generation device, the first 100 kW class of submersible horizontal axis tidal current energy-generation device, the first application of DC grid connection technology to collect the electric energy generated by multiple power generating units using multiple renewable energies.

In 2016, CNOOC launched project of “preliminary research of ocean thermal energy development technology”, investigated the feasibility of development and utilization of the ocean thermal energy in China, strived to formulate a conceptual scheme of ocean thermal energy development and provided technical support and decision making support to the construction of large-scale ocean thermal energy power generating platform.

Natural Gas Hydrate

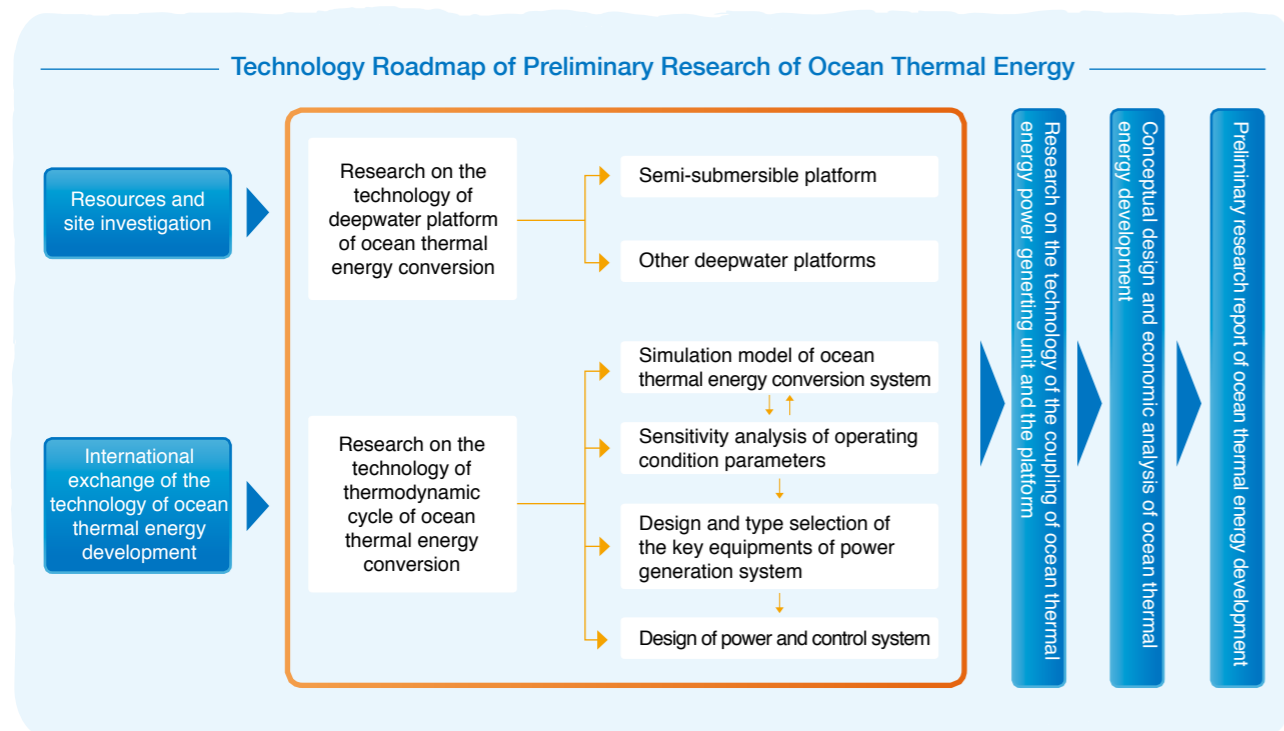
CNOOC has carried out substantial research on the cutting-edge technology of natural gas hydrate for 12 years and has undertaken the National “863”, “973” and other significant scientific and technological projects successively. It focused on the target zone for pilot exploitation of natural gas hydrate in the South China Sea and established the gas hydrate development method simulation reactor at world class. It takes the leading position in the fields of domestic natural gas hydrate exploitation technology and risk evaluation technology. In 2016, CNOOC got initial achievements in the hydrate sample drilling in South China Sea, sample restoration and testing at lab, and successfully applied for the “Pilot exploitation technology and process of marine nature gas hydrate” in the first batch of key research and development planning projects of the Ministry of Science and Technology. At the same time, the project on risk evaluation of marine natural gas hydrate supported by national great scientific and technology plan passed national examination and acceptance smoothly. The hydrate sediment dynamic, static tri-axial testing device and the risk evaluation method established by CNOOC and cooperators reach the international leading level.

Graphene

Graphene is a two dimensional carbon material formed by the monolayer of carbon atoms periodically packed densely in the form of aromatic structure. It is the elementary unit for the construction of the other dimensional carbon materials and has tremendous application potentials in the fields of energy storage, conversion and catalysis, etc. CNOOC has been focusing on the technical and industrial development of graphene, continuously tracking and researching the new progress of graphene manufacturing, utilization technology and exploring the application of graphene in energy generation.

Hydrogen Energy

The hydrogen energy is known as the ultimate energy. CNOOC successfully researched the integrated technology of solid polymer electrolyte (SPE), electrolysis pure water to produce hydrogen and developed the all-in-one equipment of SPE water-electrolyzer and fuel cell. CNOOC’s SPE water electrolysis technology has reached international advanced level.



INTENSIFYING SAFE OPERATION

CNOOC regards safe operation as the lifeblood for corporate sustainable development. It adheres to the core values of "safety first, environment utmost, people-oriented and equipment intact". It persistently improves its security system for safe production to reinforce management of the personnel, production process and emergency response, thereby striving for building a substantial safe entity. The production safety situation of the Company was stable as a whole in 2016 without the occurrence of major or serious safety-related accidents. CNOOC was awarded the honourable title of "Best Organisation Unit" during "National Safe Production Month" and "Safe Production Wanlixing".

Safety Culture

CNOOC actively advocates "Safety Standard Behaviours" and on-site operation behaviour guidance of "Five Do's and Five No-nos". We carried out a variety of publicity and educational activities of safe production to continuously build a safety culture with CNOOC characteristics.

In 2016, the Company perfected the construction of security training system and implemented the whole process supervision of syllabus, teaching material, test database, training, assessment and certification. The test database of the major managers and security personnel of CNOOC was built and 8 phases of examinations for them were conducted successively. A total of 1,986 people accepted trainings. As many as 10 online courses of safety education were developed and completed with an enrolment of 740,000 people and course completion rate of 87%. We promoted the construction of CNOOC Test Centre and security classrooms. 76 "safety physical training classrooms" have also been put into use. We held 1,842 phases of trainings with 60,000 people participating throughout the year.

In 2016, the Company extended the implementation of CNOOC Safety Standard Behaviours to the grass-roots staff and carried out the safety standard behaviour activity of "Three Ones": "one action suggestion table", "one time of supervision and inspection" and "one week observation of behaviour". The aim is to promote the implementation of the safety standard behaviours of the three levels: leaders, organisations and staff. Taking the CNOOC Gas & Power Group as an example, a total of 33 basic units, 458 frontline leaders and 4,896 people of 131 phases participating in this safety standard behaviour promotion activity and revised 41 items of the system.



10

10 security education online courses were developed

60,000

Safe physical training for 60,000 trainees

In 2016, the Company solicited articles on "Safety Management at Basic Level". It concluded the experience of safety management in the basic units and promoted effective safety management measures. A total of 172 articles were received, 61 of which were published in the "China Offshore Oil Press". We organized the activity of "Safe Production Month", wherein affiliated units carried out 2,884 special topic briefing sessions on safe production, 72 online interviews and 56 forums, and published 638 articles of comment and experiences learned from the activity. The Company edited 174 special bulletins, distributed 51,936 leaflets, set up 2,630 display panels of various kinds and received consultation of the masses for 1,727 person-time. Moreover, it held 78 speech contests, 1,281 training seminars, 281 contests, 81 exhibitions and 3 artistic performances, besides creating and publishing 2,017 pictorials and 241 cultural works on safe production. We also set up 539 inspection teams to carry out safety inspection in 1,027 basic units.

CNOOC takes the initiative in guiding the cooperation partners on safety management. It organizes thematic activities on Safety Day, involving screenings of videos on safety, sharing of accident cases, group games and individual security commitments, so as to improve the employees' safety consciousness and promote safety management.

2,884

CNOOC-affiliated units carried out 2,884 special topic briefing sessions on production safety

1,027

It carried out safety inspection in 1,027 basic units



Safety behaviour at bulk plant



New employees must accept training on safety management before taking up the post



The engine of the truck must be shut off and electrostatic clamps must be used

Soliciting articles on safety

In May-June 2016, COSL solicited articles on "Safety Management at Basic Level" and "Caring for Employees" by means of networks, so as to promote and publicize safety culture and advocate the implementation of safety behaviour. The activity received 425 safety management articles concerning trainings, drills, organisational activities, events happened around us, deeds of characters, personal experience and comments and ideas on safety, which achieved a good promotion effect.



Work permit must be obtained for electricity utilization and hot work in the bulk plant area



In the process of oil loading, special employees shall be on the spot for supervision

Ingenious application of “red face, white face” culture in safety management

COSL advocates “red face, white face” culture in safety management. “Red face” refers that the security managers strive to build a safety culture, regularly organize activities on safety education to ensure that employees are vigilant to safety issues at all times and constantly improve their own safety skills. “White face” refers that the safety management department strictly implements the various safety management regulations and formulates scientific and standard production safety management systems, while the operating centres strengthen the safety performance assessment by project, team or group. The “Three-Violation” operation found in the production will be punished severely with zero tolerance.

Production Safety

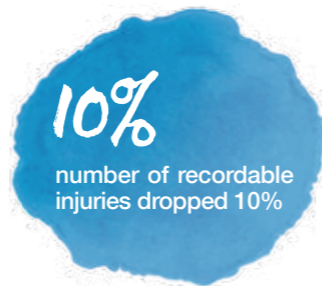
CNOOC always adheres to the policy of “safety first, prevention-oriented comprehensive control”. It continuously strengthens the development of QHSE management system, intensifies key prevention and control, strives to provide a safer working environment for all including contractors and develops the first class management capacity of production safety.

In 2016, CNOOC continuously improved QHSE management. It adhered to the systematic thinking and management model, upgraded the QHSE internal control system for the whole edition, revised 45 system documents and of which 8 were abolished. It published 10 QHSE internal control system, and published 6 management requirements.

The Company strengthened safety supervision measures and effectively prevented serious or exceptionally serious accidents. It implemented risk rating control of the offshore production facilities and downstream enterprises to promote the construction of risk rating control information system of the downstream enterprises. Moreover, it established and improved risk monitoring indicators, including monitoring of well control and risk monitoring of major operations in project construction. It strengthened safety management at basic level, promoted the creation of post responsibility list and improved on-site patrol inspection system and the capacity of ensuring on-site production safety; it sets out to tackle control over the hidden perils of oil and gas transmission pipelines and continuously reinforces its rectification and reform on the hidden perils of those pipelines so as to ensure the reduction of uncontrollable risks or leakage at different stages throughout the entire life cycle of the facilities. In addition, it continues to focus on the key parts, key links and high risk points of the safety management of dangerous chemicals and promote the safety management of high risk links including dangerous chemical storage tanks, special operation and start-up & shutdown maintenance, etc.

The Company conducted the annual inspection and examination and promoted QHSE management. The inspection, including HSE management systems of 8 units, the special inspection of quality, self-owned railway and diving contractors, along with 6 full-system safety inspections, such as special supervision for safe production of offshore oil, were conducted. The Company organized special inspection against the QHSE risks of 6 specific units and organized 885 units which were involved in on-site operation by using the information system to complete the self-inspection of “Six Rules of Enterprise Safe Production Risk Announcement” and supervised the implementation of rectification.

In 2016, production security situation was stable, and the number of recordable injuries occurred in the whole year was 65, which was reduced 10% as compared to that of the previous year, without the occurrence of major or more serious safety-related accidents.



Sparing no efforts to deal with the ice condition to ensure production safety

In early 2016, large area of sea ice appeared in the waters of Liaodong Bay due to continuously low temperature. Faced with the severe situation, “Jinzhou 9-3” Oilfield Group of Liaodong Operation Company of Bohai Oil Corporation spared no efforts to respond to the sea ice. It stepped up monitoring and strengthened the guard of icebreakers to ensure the safety of production and send-out operation of the oilfield group.



Adopting preventive measures for maintenance and providing strong equipment support

Huizhou Refinery strengthened preventive measures for maintenance to ensure the round-the-clock operation of the oil refining and chemical plant as the plant’s closure would cause a huge loss and impact the production. Huizhou Refinery conducted scientific analysis of various production data and data of equipment conditions so that a warning can be issued in advance when abnormal conditions are found. It made scientific prevention and corrective measures to ensure the safety in production at the enterprise.

The intact condition ratio of the critical and important equipment of Huizhou Refinery for the whole year reached 100%, the average value of static seal leakage rate was only 0.045% while the failure rate of the key units was zero.



Bohai Oilfield built 3D safety and protection network

The Bohai Oilfield utilizes the maritime navigation early warning system to comprehensively monitor the surface and underwater targets in the oilfield, and identify the suspicious targets that may cause damage to the oilfield facilities. The system’s monitoring centre integrated several functions such as, data acquisition, processing, recording, monitoring, evidence collection, recognition, warning, communication and command, with various sensing technologies including underwater, water surface and above water, thereby forming a 3D space-time defence network with the combination of point, line and plane, so as to achieve the overall safety network of the oilfield.

Removing potential hazards of the pipelines in advance

The length of the offshore oil and gas pipelines under CNOOC is about 6,800 km and 2,774 km for downstream. The Company conducted the centralized control to the 144 items of the potential safety hazards of the oil and gas transmission pipelines which are reported to the State Administration of Work Safety (SAWS) for tracking according to the control and correction requirements of the potential safety hazards of the pipeline deployed by the State. After two years of hard work, the rectification was completed on September 22, 2016. The task objective of control and correction of the potential safety hazards in the national oil and gas transmission pipelines was achieved one year in advance.



CSPC achieved excellent results in production safety

In 2016, CSPC continued to pursue the goal of HSE “zero accident” against the clock of the production process, strengthened the implementation of HSE management process, improved the safety consciousness of the employees, carried out all kinds of safety themed trainings and activities, and conducted 8,184 on-site safety inspections, 21,736 behaviour based safety observations (BBSO) and 108 on-site process safety inspections, so as to ensure the timely discovery and correction of the safety problems and potential hazards. No in-factory process safety accident or a recordable personal injury occurred for the whole year, and no lost-time accident for 1,681 days consecutively. In 2016, the ethylene output of the company reached up to 1,066,700 tons with the profit of RMB 5.17 billion. It sets the best record in both production and operation for 10 years since it operated.

CSPC carried out the implementation of “Phase II of Chemical Project” safety management system and completed the pre-job safety training for all the Phase II personnel with the total training hours of more than 30,000 man-hours. It strengthened on-site inspection of construction and conducted 45 tripartite inspections of CNOOC, the Shell and CSPC since July. It found 240 items of potential hazards and completed the overall correction. Other basic works of safety management were also carried out on schedule to promote the implementation of safety culture and system in Phase II Project.

“Hai Yang Shi You 943” was awarded the first prize of Shell’s global contractor safety appraisal

On September 6, 2016, “Hai Yang Shi You 943” drilling platform stood out in the global contractor KPI appraisal in the second quarter of 2016 by Shell and won the first prize of safety appraisal KPI. “Hai Yang Shi You 943” gained the Shell’s recognition for several times for its excellent operation performance and outstanding safety performance. The employees of the platform were awarded the honourable title of “Flying Dragon Heroes” by Shell for 9 times successively and the platform “Drilling Team IV” was even awarded the honourable title of “Flying Dragon Group”, which was firstly issued by Shell within its global business scope.



Emergency Management

Based on hazard identification and risk analysis, CNOOC continuously improved the emergency management mechanism, integrated the emergency management information system, developed the APP of emergency management, improved ICS system construction, strengthened the emergency trainings and drillings and fully enhanced system capacity to resist risks and minimize the impact of emergencies.

In 2016, the Company strengthened the construction of emergency repair and maintenance base and promoted oil and gas pipeline emergency rescue. The South China Sea base Phase I Project, Tanggu Subsea Pipeline Emergency Repair and Maintenance Centre Phase II Project and Fujian Pipeline Emergency Repair and Maintenance Centre Phase II were included into national programmes. The Company is always getting ready for typhoon warning and emergency response. A total of 25 typhoons occurred in northwest Pacific Ocean and South China Sea in 2016, 13 of which affected the normal production operation. In order to avoid the influence of typhoon, the Company started the anti-typhoon emergency plan in time. It used helicopters for 779 sorties, ships for 62 voyages and safety mobilization and demobilization of operation personnel for 16,732 people. No personnel casualties were recorded.

779

Using helicopter by 779 sorties for typhoon emergency

16,732

Safety mobilization and demobilization of operation personnel for 16,732 people

ICS Emergency Command System was online

CNOOC used the ICS emergency command system framework as reference to create the standardized new model of emergency management in line with the international standard. The ICS system can not only resolve the problems of coordination, language unification and resource deployment in the process of emergency, but also has advantage in guiding the role assignment and goal-oriented conference organisation and recording the emergency process among others. The Company strived to realize the comprehensive utilization in the whole company by carrying ICS emergency drill in Pengbo Company pilot site of CNOOC Tianjin branch.



CNOOC participated in process of Sino-Korea Offshore Oil Spill Emergency Drill

On July 14, 2016, CNOOC dispatched its professional environmental protection vessel “Hai Yang Shi You 252” to participate in the whole process of “2016 NOWPAP Sino-Korea Offshore Oil Spill Emergency Drill” held in the sea area of Shandong Weihai North Port. As the main force of offshore oil spill emergency, CNOOC continuously focuses on the construction of offshore oil spill emergency response capacity and established 8 emergency bases, 9 professional environmental protection vessels and constantly improved the comprehensive strength in offshore emergency handling. While expanding cooperation in domestic emergency field, CNOOC pays more attention to the international cooperation of oil spill emergency and constantly enhances the international recognition and discourse power in offshore oil spill emergency field.



“Qinhuangdao 32-6” Oilfield held offshore joint drills for search & rescue and oil spillage

On June 6, 2016, CNOOC “Qinhuangdao 32-6” Oilfield held the offshore joint drill of search & rescue and oil spillage together with seven departments, such as Tangshan Marine Affairs Bureau, Tangshan Port and Ship Administration Bureau, Tangshan Oceanic Administration, Tangshan Agriculture and Animal Husbandry Bureau, Tangshan Border Protection Detachment, Tangshan Search and Rescue Centre and Tangshan Jingtang Harbour Oil Spill Emergency Headquarters. A total of 7 vessels, comprising 3 AHTS vessels of the oilfield and 4 vessels from the government department were used. The drill lasted for 3 hours and completed multiple emergency items, such as search and rescue of overboard personnel, arrangement of oil spill emergency equipment, setting spill containment boom and laying oil skimmer, etc.

Western South China Sea Oilfield carried out anti-terrorism emergency drill

On June 11, 2016, the Weizhou Terminal of the Western South China Sea Oilfield, Management Committee of Weizhou Island and border protection armed police union jointly carried out anti-terrorism emergency drill. This drill simulated that three unidentified people drove into the factory with suspected explosives and were subdued in their attempt to rush into the tank field to detonate explosives. It also conducted other drill subjects, such as inspection of suspected explosives, anti-terrorism and anti-explosion, rounding up terrorists, etc.



CNOOC "Emergency Model" showed up in Huludao

On October 28, 2016, the offshore installation company of COOEC and the government of Huludao City jointly held "2016 Hand-in-Hand" Ship-to-Shore Emergency Handling Drill, featuring fire-fighting, life-saving and anti-pollution as its contents. The drill was based on the simulation of the situation that the temporary paint storage areas in the middle part of the port side ship of "Binhai 108" ship was suddenly on fire. In response, fire response deployment was made to arrange the fire fighting truck and fire fighting tugboat to put out the fire successfully. The coordination between the cooperative enterprises and the co-action of government and enterprises in the emergency process was greatly strengthened. It achieved the goal of rapid control and regulation of enterprise and social emergency resources, besides preventing the accident from aggravating and reducing losses as much as possible.

Eastern South China Sea Oilfield successfully defended against violent typhoon "Nida"

After receiving the warning of violent typhoon "Nida" (the maximum wind scale is level 14), the Eastern South China Sea Oilfield started the emergency plan in advance to arrange for production emergency response and personnel evacuation. It used helicopters for 125 sorties and evacuated 2,194 offshore operation personnel. After all the personnel left, the "Typhoon Production Mode" of unattended facilities of the platform was initiated. The Eastern South China Sea Oilfield enabled the "Typhoon Production Mode" for four times, including the one in "Nida" period for the whole year and kept production for 270.9 hours. The natural gas production in these periods added up to 100 million m³ which satisfied the natural gas demand of power plants, residents and enterprises in the western part of Pearl Delta.



Daxie Storage Company innovated in emergency response mechanism

Daxie Storage Company belongs to dangerous chemicals storage enterprise. It signed the emergency response agreement with the adjacent PetroChina Fuel Oil Co., Ltd. and PetroChina Terminal Co., Ltd. to provide mutual assistance and rescue in case of emergency events and realized the emergency resources sharing, such as emergency response team and emergency supplies. The interconnection of the fire water of the three parties greatly improved the fire fighting capacity and reduced the emergency cost. This reasonable suggestion was awarded the excellent "Golden Idea" of suggestions on safe production of Ningbo City this year.

IMPROVING QUALITY MANAGEMENT

CNOOC considers "pursuing leading position and customer satisfaction" as its quality objective and always adheres to the policy of "people-oriented, safety first, integrity and law-abiding operations, reinforcing foundation, being innovation-driven and winning with quality". It establishes a comprehensive quality management system, builds a quality information management system, publishes and implements "CNOOC 13th Five-Year Quality Plan". It carries forward "spirit of craftsmanship" and builds the world famous brand by providing quality products and services. It continues to promote the "QC team" activity, in which 7 QC teams were awarded the title of National Excellent QC Team and 259 QC teams at basic level were awarded the title of Industrial QC Team. "Hai Yang Shi You 981" drilling platform of COSL drilling division won the "China Quality Prize" of the second session and became the only award-winning unit in the frontline teams. Zhuhai LNG Terminal of CNOOC Gas & Power Group was awarded the "National Advanced Enterprise of Implementing Excellent Performance Model" of China Quality Association. The oilfield chemical division of COSL was awarded the "Quality Benchmarking Enterprise" of National Association of Petroleum and Chemical Industry.

"Hai Yang Shi You 981" platform was awarded second-term China Quality Prize

On 29 March 2016, "Hai Yang Shi You 981" Drilling Platform won China Quality Prize, the highest governmental honor in Chinese quality field, and became the only front-line production team at the basic level. Since it was put into operation, the platform has developed a comprehensive management system covering the overall production and operation process with the quality management as the main line through constant practice. The management team set an excellent example for CNOOC based on high quality and high standards.

COSL won good reputation by building competitive projects

COSL places emphasis on the control over various professional service qualities and thus reaches the service level of green contractors of the Shell to become "the most competitive drilling service contractor", "shipping service contractor with excellent reliability and outstanding performance", "well logging service contractor of distinguished orientation", and "the most outstanding well cementation and sludge treatment contractor".



COOEC was awarded the highest quality prize in welding field

On 7 November 2016, the "Panyu 35-2/35-1" underwater facility project contracted and undertaken by the Special Equipment Company of COOEC won 2016 National Excellent Welding Project First Prize issued by China Engineering Construction Welding Association, the highest quality prize in the welding field of Chinese engineering construction. The award winning projects are all the key engineering projects which reach domestic advanced level in the aspects of design, construction, and construction quality, etc.

Zhuhai LNG Project won the highest prize of National Quality Project Award

The Phase I Project of Zhuhai LNG Terminal won the golden prize of 2016-2017 National Quality Project Award, which is the highest prize of national construction management. The annual LNG processing capacity of Phase I Project is 3.5 million tons, while the gas supply capacity stands at 4.4 billion m³ per year. After the whole production line was put into operation, this project can effectively optimize the energy structure of the west seashore of the Pearl River region, replace 6.32 million tons of standard coal and reduce 609,000 tons of CO₂ emission, 136,700 tons of SO₂ emission and 88,400 tons of NO_x.

Proactively upgrading the quality of oil products

In 2016, CNOOC Oil & Petrochemicals Co., Ltd continued upgrading oil products and completed the project of comprehensive utilization of acidic heavy oil of Zhongli Company, Zhongjie Petrochemical clean fuel upgrading project, the project of comprehensive utilization of distillate of Daxie Petrochemical, Ltd. and the quality upgrading of refined oil projects of Taizhou integration project, with the output of refined oil products reaching the National V Emission Standard. It also reserved space for upgrading to national VI emission standard and took the leading position in the industry.



Phase II Project of Huizhou Refinery guaranteed quality in a fault-finding manner

As the largest on-building project of CNOOC, Phase II Project of Huizhou Refinery is characterised by huge construction quantity, wide operation scope, countless construction personnel and management difficulty. Therefore, ensuring the on-site construction safety becomes a top priority. The project team values quality as their own life and adheres to the entity quality of “never lowering the standard, discarding the procedure or missing a step”, strictly implements the supervision of project quality, ABC three-level quality inspection, material approaching acceptance, welder admission and elimination, shut down for quality problem, “establishing model project” and other quality management modes, so as to ensure “zero defects” in construction quality.



Carrying Out Activities of “Quality Month” and Carrying Forward “Spirit of Craftsmanship”

The Company enhanced quality publicity with the help of multiple media to create an atmosphere of pursuing excellent quality. It strengthened awareness of quality risks to make response measures, carried out quality sampling and special actions for key products to ensure product quality. It carried out QC team activity, technological PK, etc. to enhance the quality consciousness among the staff, concentrated on the cultivation of “spirit of craftsmanship” to strengthen quality training and improve the vocational quality and professional competence of the employees.

Implementation of special inspection of quality to improve the quality of products and services

The Company conducted special inspections of 6 laboratories, special quality inspection of “full coverage, overall process and identical standards” of 44 service stations in Hunan province, and self-inspection of 480 service stations, 58 bulk plants and 27 transport fleets, discovering 1,534 problems. After that, it made an improvement plan and completed on schedule.



Special Topic “SPIRIT OF CRAFTSMANSHIP” CREATED BLUE LEGEND

CNOOC proactively cultivates the “spirit of craftsmanship” of constantly seeking for perfection, and pursues the utmost perfection of the product quality. People at CNOOC have always great reverence for the brand and the public reputation. Their hard work, persistence and repeatedly practice are backed by their spirit of steadfastness, concentration and pursuit of excellence. Their respect for career, their admiration for the profession and their inheritance of skills all reflect the passion and persistence in their hearts. CNOOC craftsmanship and sophisticated creative ingenuity has been polished over time.

“Similar to the four ways of diagnosis in traditional Chinese medicine; ‘look, listen, question and feel the pulse’, the ‘refinery craftsman’ shall master the five ways of ‘look, listen, feel, check and smell’, e.g. looking at the operation conditions of the plant, listening to the operation sound of the equipment for abnormality, feeling the equipment vibration for steadiness, checking the lubricating system for normal operation and smelling the equipment for peculiar smell. The ‘spirit of craftsmanship’ requires us not only to master good operation skills, but also have a strong sense of responsibility to do all the work seriously with every detail considered.”

Guan Jianqiang, Huizhou Refinery

“CNOOC Frogmen’ have gone through numerous twists and turns and grown out of nothing. It was the persistent pursuit and insistence to realizing the ideal that has culminated in the form of achievements today. Faced the temptation of high salary from competitors and the harsh working environment, the ‘CNOOC Frogmen’, represented by Chu Jinyong, continued to stick to their post. Their persistence is the best interpretation of craftsmanship spirit.”

Guo Hongwei, COOEC



“The connotation of ‘spirit of craftsmanship’ is embodied in tightening of every bolt, paying attention to details and striving for perfection; this reflects persistence in maintaining quality of work. Shutting off power supply, isolation and evacuation, never skipping a single maintenance procedure and working with the greatest care; this reflects persistence in maintaining the safety system. Being professional and devoted to work; this reflects persistence in pursuing career and constantly progressing.”

Dong Fei, Chengbei Oilfield

“The one who cannot bear loneliness and solitude and be patient and persistent will not become a “craftsman”. The model workers of Capitan Fu Yonghan and “Golden Steering” Capitan Xu Ping stuck to their post in the frontline in the sea for 30 years and strived to do the best for every voyage and every berthing. Their goal is to keep improving, which is the developing process of craftsmanship, the result of self-improvement and persistence.”

Zhang Huafeng, COSL

“A series of processes, such as safety inspection before LNG filling, loading pipe connection and charging, etc. is dull and heavy. The send-out of 100 trucks per day means these processes would be repeated for 100 times. Every time must be done carefully. In my opinion, to do the repeated and dull work extraordinarily well is the craftsmanship spirit.”

Zhang Guopeng, CNOOC Gas & Power Group

ENHANCING ENVIRONMENTAL PROTECTION

CNOOC upholds the developmental concept of “green, low-carbon, clean and circular economy”, pursues having “resource-saving and environment-friendly” enterprise and implements overall management of environmental protection to constantly improve the level of green operations, realizing sustainable development of the Company and the environment.



GREEN OPERATION

With the principle of developing a green, low carbon, clean and circular economy in mind, CNOOC steps up its efforts in transforming itself into a resource-conserving and environment-friendly company. It adheres to the management principle that “control after the event is inferior to control during the event, control during the event is inferior to control before the event, and control before the event is inferior to whole process control”. In this way, CNOOC has effectively reduced environmental risks and realized sustainable development between the Company and environment through continuously improving environmental management system, continuing to enhance overall environmental management process in construction projects, and integrating environmental protection into daily production and operation.

Environmental Management

In 2016, the Company promoted the standardised management of environmental protection and issued special work guidance, such as Guidelines to Post-Assessment of Environmental Impact, Guidance to Completion of the Marine Pollution Prevention Record Form, Guidance to Compilation of Report of Environmental Assessment Changes, Guidelines of Solid Wastes Management and Implementation Guidelines of Energy Performance Contracting Project. The Company has strengthened the supervision and liability of environmental protection, and it has printed, distributed and implemented Administrative Rules on Accountability for Ecological Environment Damage. Moreover, the Company was appointed by the Ministry of Industry and Information Technology to introduce the experience of creating green factories and participate in drafting the industrial standards.

☑ Launching the office building green lighting project

In 2016, CNOOC carried out a comprehensive transformation for energy-efficient lighting in its office buildings through investigation by internal professional service company and centralized procurement by the Headquarters. An overall cost of more than RMB 10 million was saved, and the average payback period of lamps and lights after transformation is expected to be about 2 years.

☑ China BlueChemical constructed “Green Mine”

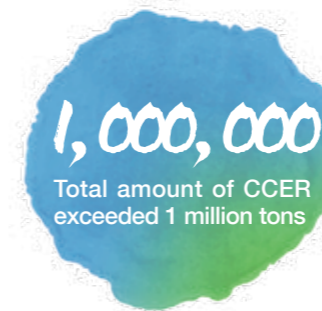
China BlueChemical focused on the coordinated resource development and environmental protection. It carried out environmental impact assessment and geological disaster assessment and made the corresponding protection scheme to eliminate the potential hazards in the process of mine construction. The waste water, exhaust gas and waste residues generated in the mine were disposed effectively to make sure to meet the control standard. The Company conducted the restoration and control of the ecological environment and the land rehabilitation of the closed mine, striving to construct a “Green Mine”.



TACKLING CLIMATE CHANGE

As global warming is increasing, it has become one of the core issues globally in need of resolution, so as to reduce greenhouse gas emissions and protect the environment. As a responsible international energy corporation, CNOOC attaches great importance to the work of tackling climate change. It is the first central enterprise which has completed carbon interrogation as per international standards.

In 2016, the Company actively tackled climate change. It has been reducing greenhouse gas emissions through developing carbon emission monitoring and verification technology besides constant research on Carbon Capture, Utilization and Storage technologies. It strengthens carbon interrogation and promotes carbon trading, conducting carbon interrogation according to the newly-launched 24 standards, so as to have a clear idea of the current situation. Multiple Chinese Certified Emission Reduction (CCER) projects were allowed to enter into the carbon market. The total amount of CCER exceeds 1 million tons.



☑ Steadily promoting research on carbon emission reduction technology

CNOOC attaches great importance to the emission reduction of the greenhouse gases, such as CO₂, and has established multiple agencies like energy conservation and emission reduction centre to carry out research on CO₂ emission reduction and utilization technology. In 2016, the Company has been continuously concentrating on the progress of CCUS (Carbon Capture, Utilization and Storage) technologies, and proactively promoting the follow-up study on CO₂ capture, transmission, CO₂ drive, geological sequestration and CO₂ chemical utilization technologies.

☑ Launching the Chinese Certified Emission Reduction Project (CCER)

In 2016, CNOOC’s business level of carbon asset development was further increased; multiple CCER projects were approved by the National Development and Reform Commission (NDRC) with the total amount of CCER certified to enter the carbon market for more than 1 million tons. The low carbon team of the Company not only proactively served the internal enterprises of the system but also won recognition from external customers by virtue of its professionalism and high efficient development capacity. It successfully developed more than 10 CCER projects outside the system, including photovoltaic power generation, wind power generation, biomass energy, etc.

☑ Promotion of Marine LNG Clean Fuel

CNOOC promoted the application of LNG on ships, adopted a marine LNG fuel system for the first time, and arranged the main engine of LNG fuel on traditional harbour tugboats. The designs of LNG storage, supply and filling are all independent initiatives. They have realized emission reduction of SO₂ by 89%, NO_x by 85%, and CO₂ by 26%.



WATER RESOURCE MANAGEMENT

CNOOC places emphasis on technological progress and innovations, increases efforts on technology reforms, intensifies supervision management, strengthens waste water comprehensive treatment and recycle, and enhances water resource management in the round.

In 2016, CNOOC specified water conservation tasks and targets in all its subsidiaries, proactively carried out promotion activities regarding water conservation, and continued to reduce fresh water consumption volume per unit product by optimizing production process. CNOOC successfully saved precious fresh water resource through measures of reclaimed water recycle and sea water desalination. The Company had 84 million tons of fresh water consumption and saved 674,000 tons of water resources in the entire year.

Built the largest water conservation terminal in Asia

CNOOC Gaolan natural gas processing terminal is the largest “water saving” terminal in Asia. In order to save the consumption of tap water, it takes a full consideration of the recycling of surface water and designs a rainwater reuse system and the comprehensive utilization scheme of mountain spring water. The rainwater reuse system can be used for collecting rainwater of the whole site and later sending it to the circulating water and waste water processing system of the terminal for purification and subsequent use as circulating water. As for the comprehensive utilization system of mountain spring water, after the construction of dam, water tank and laying of pipeline network system independently, about 5,000 m³ of mountain spring water can be recycled per month, especially in rain season, the recycling capacity can be doubled. Thanks to these measures, the total water saving amount can reach up to 60,000 m³ for the whole year, which can completely meet the needs of green and domestic water consumption of the terminal.



The annual amount of water resource saving reached up to 674,000 tons

Bohai Oilfield: Expanding capacities without increasing emissions

Bohai Oilfield strictly controls the produced waste water, by means of implementation of waste water reinjection measures for the newly-developed oilfields, and improvement of the effect of the sewage treatment facilities for the old oilfields, so as to satisfy the requirement of “expanding capacities without increasing emissions”. Presently, the various offshore platforms in the Bohai Sea have basically realized “zero emission” of produced water. The water quality of the discharged domestic waste water is also closed to the index of tap water.

“Penglai 19-3” Oilfield uses turbine’s residual heat to desalt seawater

“Penglai 19-3” Oilfield installed a flue-gas heater and hot water heat exchanger on the flue of gas turbine to use the hot water circulating pump to circulate hot water and transfer the heat absorbed from the flue-gas of turbine to the fresh water generator, producing fresh water through distilling seawater. 74 m³ of fresh water can be produced every day in this way to supply the production and domestic consumption of the offshore oil platform.

Watering flowers and plants with organic reclaimed water

Tianjin LNG Company designed a reclaimed water greening system, which is especially used for greening of office area. It purifies domestic waste water into reclaimed water whose water quality is more suitable for the growth of plant than that of domestic water. Thanks to this system, the LNG factory area located in Tianjin Nanjiang port has been built into beautiful green belts.



Turning wastewater into “Golden Water” to realize zero emission

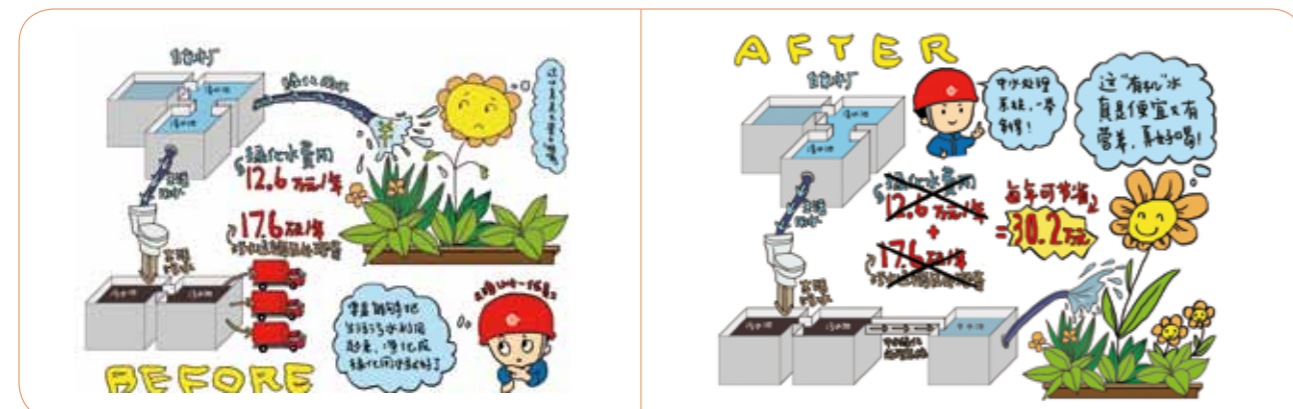
Shandong Haihua implements the improvement of carbonised cooling system to replace seawater with subsurface brine for temperature reduction. After the system’s improvement, the subsurface brine used to replace the seawater will be sent to the bromine plant for bromine extraction and then be sent to the salt works for salt manufacturing. After the overall technical transformation, part of the waste water generated from the other temperature reduction system of the new and old production lines of the soda plant is to be recycled to the system after precipitation in the sedimentation tank. Thus, the system recycling waste water in traditional sense is turned into valuable “golden water” of producing products and creating benefits, realizing the resources recycling and zero emission from waste water for system cooling.

Wastewater reuse of Zhongshan Jiaming Electric Power Co., Ltd. is paid off

In order to save water, Zhongshan Jiaming Electric Power Co., Ltd. newly constructed the domestic, oily and the industrial waste water treatment equipment to collect and process all the waste water in the factory of domestic, industrial and oily waste water until the water quality reached the required standard. Later on, it reuses the water in the industrial cooling water system. The annual water saving amount is 216,000 tons and the annual economic benefit is about RMB 280,000.

China BlueChemical comprehensively carries out water resource management

Placing emphasis on water resource management, China BlueChemical completed the key project of “development of water saving of industrial cooling system and waste water near zero emission technology” of National “863”. China BlueChemical strongly advocates the economical utilization of water resources and positively adopts water-saving measures to reuse the produced waste water after clarification in the production system for recycling, so as to reduce the consumption of fresh water. It also makes use of the reverse osmosis device to construct the reclaimed water recycle station with the recycling rate above 70%, which greatly improves the utilization efficiency of the water resources.



ENERGY CONSERVATION AND EMISSION REDUCTION

Guided by the main ideology of “green development, low carbon and innovation”, CNOOC always advocates green and low-carbon production, living and consumption patterns. It controls energy consumption of new projects from the source through exploring energy conservation potentials of the existing facilities, planning energy distribution within the region and continuous investment of the special fund of energy conservation and emission reduction. It promotes the work of energy conservation and emission reduction depending on technical progress. It also uses energy conservation and emission reduction management information system to carry out energy conservation and emission reduction work in the various links of implementing production, products circulation and consumption. In 2016, the Company strictly complied with the requirements set out in the new “Environmental Protection Law” to intensify the supervision and inspection of environmental protection, energy conservation and emission reduction. Moreover, it established the monthly tracking and feedback mechanism, tracked and settled 50 environmental hazard events and specified the responsible units and personnel to make correction within a definite time. It formulated and revised five energy conservation standards and conducted the overall revision of the systems, regulations and detailed rules of energy conservation management. It carried out “Energy Efficiency Frontrunner” and advanced energy conservation campaigns of “12th Five-Year Plan” and the training activity of energy conservation management personnel.

It organized promotional activities by the names of Energy Conservation Week and National Low Carbon Day. It concentrated in conducting energy audit, “Green Factory”, formulation of the construction scheme of energy management centre, optimization of energy system, investigation of the boiler energy conservation potentials, renovation of variable frequency pump and water and electricity conservation of circulating water system to promote the overall improving of the energy conservation.

In 2016, CNOOC was awarded the 4th term of “Excellent Energy Conservation and Emission Reduction Enterprise” issued by State-owned Assets Supervision and Administration Commission (SASAC) as its 30 affiliated key energy-consumption units all accomplished the “Ten Thousand of Enterprises” energy conservation task assigned by National Development and Reform Commission (NDRC). The Establishment and Implementation of Comprehensive Energy Conservation Management won the first prize of national petroleum and petrochemical “Excellent Achievement of Enterprise Management Modernisation”. The energy conservation and emission reduction monitoring centre of the head office was rated by Ministry of Industry and Information Technology as the only one “Industrial Energy Conservation and Green Development Assessment Centre” in the oil and gas industry of China.

Moreover, the Company implemented 52 energy conservation projects and invested RMB 406 million for the whole year. As a result, it saved 230,000

tons of standard coals and contributed continuously to the ecological civilization construction. In 2016, the annual comprehensive energy consumption of CNOOC was 14.343 million tons of standard coal, the energy consumption of production value per ten thousand yuan was 0.3519 ton of standard coal (comparable price in 2015). In 2016, five units under CNOOC, including Huizhou Refinery Branch, were awarded the “Energy Conservation Advanced Unit” of the petroleum and chemical industry of China. CNOOC Energy Conservation and Emission Reduction Monitoring Centre and CNOOC Energy Conservation & Environmental Protection Service Co., Ltd. were awarded the “Excellent Service Unit of Energy Conservation” in national petroleum and chemical industry. The Company takes “Energy Efficiency Frontrunner” activity as a long-term mechanism. The ethylene, methanol and synthetic ammonia of the affiliated enterprises were each awarded the honourable title of “Energy Efficiency Frontrunner”. CSPC was awarded the title of “Energy Efficiency Frontrunner” in 2016 national ethylene industry and ranked second.

230,000
energy conservation
amount of 230,000 tons of
standard coal equivalent

Reducing Emission of General Pollutants

We are continuing to adopt the method of “reducing scale, replacing fuels and taking measures” to promote the implementation of emission reduction projects and promote treating environmental hazard through exhaust gas desulphurisation and special refinery reconstruction of treating odour. In 2016, our emissions of SO₂, NO_x, COD and Ammonia Nitrogen were 5,796 tons, 10,654 tons, 1,075 tons and 109 tons respectively, with a year-on-year decrease of 32%, 30%, 38% and 27%.

Special Treatment of VOCs

The Company constantly constructs and improves the VOCs comprehensive management information system and the supporting management system. It issued CNOOC VOCs Renovation Plan, constructed 12 types of source item accounting platforms of VOCs. It urges the affiliated units to conduct VOCs source survey, registration and total amount accounting. It organized VOCs training video session in the year with a participation of 215 person-time. It comprehensively sorted the annual VOCs reconstruction projects and further promoted the VOCs comprehensive control and management of petrochemical and warehousing enterprises, with emphasis on the VOCs emission sources, such as storage tanks, loading and unloading trucks and sewage treatment units. The Company

strengthened its support to the scientific researches on control and supervision standards of VOCs pollution, estimation method and pollution prevention technology. It constantly carried out the equipment leakage detection and repair (LDAR) work and strengthened the VOCs emission at dynamic/static sealing points of equipment and pipeline valve fittings. A total of 11 enterprises carried out LDAR work in the year.

Hazardous Waste Management

The Company sends hazardous wastes to qualified units for recovery processing to ensure that hazardous wastes will not cause pollution to the environment.

Application of solar energy on platform by the design company of COOEC

The “thermoelectricity + solar energy” double power supply system independently designed by COOEC, using both explosion-proof thermoelectric generator and solar energy as the power source of the platform, has less energy consumption and less cost than those power supply system with traditional single thermoelectric power generation method. In addition to be used in the domestic offshore oil production platform, this system was formally put into operation in Zawatika WP4 oil production platform of Thailand in 2016.

Thermal recycling at evaporation workshop of Shandong Haihua potassium sulphide plant

Shandong Haihua used salt-making mother solution (bittern) as the raw material. It evaporated most of the water content in the bittern through the new energy-efficient evaporation technology of “3+1 switching” so that the magnesium sulphate, magnesium chloride, potassium chloride and sodium chloride in the raw material bittern were precipitated and separated respectively, before converting into agricultural potassium sulphide, industrial magnesium chloride and refined industrial salt. Besides, it also achieved comprehensive utilization of the salt-making mother solution (bittern) resources to turn “waster” into wealth and achieved the goal of energy conservation and emission reduction as well as efficiency increasing and consumption reduction.

Geophysical vessel reduces oil consumption by applying new system

“Hai Yang Shi You 721” fleet applied C-JOY system and used the linkage mode to control the ship speed within the range of ± 0.1 knot of the set speed and the maximum limit of lateral deviation speed at ± 0.05 knot. In this way, the fuel consumption will be reduced while increasing the operation efficiency. As many as 360 tons of fuel oil can be saved in a year.

New ways of energy conservation by various oilfields

Eastern South China Sea Oilfield

Gaolan terminal skilfully used the low temperature to reduce the energy consumption through three adjustments: adjusting the operation modes and quantity of the fans of the after-cooler of the propane compressor to change the power frequency to variable frequency; adjusting the pneumatic brake opening of fan of the decarbonised barren liquor cooler to reduce the circulation volume of the decarbonised agent on the premise of ensuring the CO₂ removal effect; and adjusting the resurgent gas supply method of the dewatering unit to reduce energy consumption by using low temperature. In the low-temperature weather, it reduces the electric power consumption by reducing the usage of the cooling air-conditioning of the electric plate cabinet in the substation with the daily electric power conservation of 3,000 kWh.

“Huizhou 19-2” platform recycled the released gas for electric power generation by installing the pre-treatment device of associated gas and micro turbine generator to recycle the associated gas originally released and burned through the flare. One set of the main generator in the original power grid is eliminated after the equipment was put into operation with the annual natural gas recycling of 4.5 million m³, equivalent to the energy conservation capacity of 6,500 tons of standard coal.

“Hai Yang Shi You 111” FPSO waste heat recovery reduced energy consumption. Through a series of measures, such as recovery and utilization of waste heat from main engines and boilers, and renovation of lighting system, it accelerated the recovery of waste heat from the exhaust gas of the main engine. The annual reduction of fuel oil consumption of the boiler is equivalent to about 5,600 tons of standard coal. The emissions of CO₂ and other exhaust gases can be reduced.

Eastern China Sea Oilfield

Eastern China Sea Oilfield has a good method of recovering the associated gas of the subsea pipes. A certain platform of Eastern China Sea Oilfield used two needle valves and a piece of instrument pipe to transform the manual residual gas release of crude oil subsea pipe, so as to effectively control slug flow and recover all the residual natural gas through compressor. The accumulative natural gas conservation reached 957,700 m³.



Bohai Oilfield



“Jinzhou 9-3” Oilfield realized the annual natural gas conservation of 26 million m³ with energy conservation capacity of 32,000 tons of standard coal by rational distribution of the electric power load of the power generator, thereby improving the operational efficiency and energy utilization rate of the power station system according to the production conditions of the oilfield group within Stage I and Stage II electric power network area.

“Suizhong 36-1” Oilfield installed the reactive-load compensation equipment on the platform with low power factor in the power grid to reduce the reactive power exchange flow between the power stations. It used active filter for centralized filtering to ensure the safety operation of power grid and reduce the running current, realizing the annual energy conservation capacity of 20,000 tons of standard coal.

Flare gas recovery of Daxie Petrochemical, Ltd. can save RMB 150 million a year

In 2016, the project of comprehensive utilization of distillate of Daxie Petrochemical Ltd. successfully extinguished the flare and recovered the flare gas. Through flare gas recovery, the various plants of the comprehensive utilization of distillate project can recover about 30,000 tons of gas, which is sufficient to supply the 20,000 households for nearly six years if converted to LNG. It can save nearly RMB 90 million every year.

Bohai Oilfield realized zero pollutant emission from operation in the marine ecological red-line areas

In order to reduce the impact of drilling operation on the marine life, Bohai Oilfield cleared the basic requirement of avoiding fishing season, specially made the environmental protection measure of recovering all the drilling cuttings and muds and arranged centralized operation of drilling platform according to the fishing season. For the exploration well operation in the marine ecological red-line area, Bohai Oilfield completed the reconstruction of drilling platform in advance. It thereby recovered all the drilling cuttings, muds and domestic wastewater generated in the whole process of operation for storage and then transported them to the qualified unit on the land for disposal, realizing the zero emission of the operation pollutant in the marine ecological red-line area.

Zhongshan Jiaming Electric Power Co., Ltd. achieved high efficiency on emission reduction through implementation of “Green” reconstruction

On August 5, 2016, Zhongshan Jiaming Electric Power Co., Ltd. of CNOOC Gas and Power Group completed the renovation of dry low nitrogen (DLN) combustion system in the overhaul of No.3 unit. It applied the world’s most advanced low nitrogen combustion technology, improved the burner nozzle and adopted sorting transmission of fuel to effectively reduce the emission of nitrogen oxides. After the renovation, every 1kWh of electric power generated can reduce the emission of 75 mg nitrogen oxides. The annual emission reduction of nitrogen oxides is 750 tons, which significantly expanded the applicable range of Wobbe Index (natural gas heat load index) and achieved cleaner and more environment friendly effect.

China BlueChemical promotes treatment of exhaust gas and dust

China BlueChemical implemented clean production and carried out pollution prevention to minimize the impact of production and operation on environment. In 2016, it completed the treatment of boiler flue gas and urea tower dust in the Inner Mongolian Base and effectively reduced the emission volume of SO₂, NO_x and urea dust, in which the annual emission reduction of SO₂ is 1,303 tons, NO_x is 1,507 tons and urea dust is 330 tons.



LDAR innovation and implementation achieved surprising effects

On the basis of the experimental LDAR work of carried out on two sets of plants in 2015, Huizhou Refinery, in 2016, comprehensively carried out LDAR on the 15 sets of refinery production plants. It added major innovations in the following four aspects during the implementation: 1) In the implementation model, it combined carrying out the work independently with entrusting professional company to provide guidance and training, saving the implementation cost of more than RMB 10 million; 2) In the positioning of on-site detection points, it innovatively combined the positioning by on-site signing with photo positioning, thus forming a new image signing method; 3) In the transmission of the monitoring data, it realized the automatic transmission of monitoring data on the management platform; 4) In the control of big data, it realized the closed-loop management of VOCs emission monitoring and equipment maintenance to expand the coverage of preventative maintenance. After the implementation of the project, the equipment leakage rate reduced under 0.01% with the total emission amount of 42 tons, with an emission reduction rate of 66%.

Bohai Oilfield achieved high yield and low carbon

Bohai Oilfield adheres to the philosophy of “high yield with low carbon; development on the premise of protecting environment”. It strengthens the work of energy conservation and emission reduction and implements the measures of high standard emission limits to minimize the impact of their operations on the environment. In 2016, “Qinhuangdao 29-2” project team exploited the natural gas block with CO₂ in the method of gas injection to use the residual gas with rich CO₂ in the gas injection exploitation of the extremely thick and low permeability oil reservoir in the Eastern 4 block of “Qinhuangdao 29-2” oilfield, realizing the win-win combination of energy conservation and high yield.

BIODIVERSITY CONSERVATION

As a proactive advocate for the protection of marine ecological environment, CNOOC always attaches great importance to the protection of biodiversity in the area surrounding the operation zone. Protecting the environment is the Company's unwavering commitment during all phases of a project life cycle. In order to maintain a harmonious balance between the economic projects and ecological environment, the Company always makes it a point to pre-assess environmental risks, so that it can identify the environmentally sensitive targets in the vicinity of the project and avoid environmental risks.

In addition, through the platform of CNOOC Marine Environmental and Ecological Protection Public Welfare Foundation, we have actively committed ourselves to the ecological diversity research and protection project, promoting resource restoration and environment improvement in the area where the project is located and establishing characteristic projects, such as "protection of larga seal" and "enhancement and releasing". In the meanwhile, the Company has positively participated in propagating environmental protection, making efforts to create better ecological conditions for building a beautiful China.



Bohai Sea Penaeus Orientalis Enhancement Capacity Research Project

CNOOC has carried out the three-year project of Bohai Sea penaeus orientalis enhancement capacity research. It has thrice launched comprehensive investigation on Bohai Sea's nekon, benthos and plankton, etc., besides embarking on a voyage of basic productivity survey. Through such extensive basic researches, it has determined the evaluation method of penaeus orientalis enhancement capacity based on Ecopath model.

Larga Seal Protection and Research Project

The protection and research of various larga seals in the Dalian Larga Seal National Nature Reserve has become the characteristic ecological protection project funded by CNOOC for four consecutive years during which the Company conducted more than 30 times animal rescue activities and successfully rescued 11 larga seals and one finless porpoise. It assists the construction of Lvshun Shuangdao Larga Seal Monitoring Station and has completed the construction of holding pond of larga seals with volume of 300 m³ to provide hardware basis for the protection of larga seals. It also raised awareness on larga seal protection through releasing activities and popular science campaign at "the scenic spots, communities, fishing zones and school districts". Moreover, it has been continuously carrying out the scientific research of investigation and observation of larga seals distribution on the ice and larga seal physiological research, among other activities.

Distribution and protection of the finless porpoise population quantity, breeding migration in the Huanghai Sea and the Bohai Sea

The finless porpoise is listed among the Class II Endangered and Protected Wildlife Species of China and in Convention on International Trade in Endangered Species of Wild Fauna and Flora, and faces the severe living condition under the double pressure of deteriorative ecological environment and overfishing. In order to grasp the population dynamics of finless porpoise group and its individual behaviour in the Huanghai Sea and the Bohai Sea, CNOOC formulated the constructive strategy of protecting finless porpoise and funds to conduct a 5-year research project.

Research on protection and restoration technology of typical coastal zone ecological environment and resources in Shandong

The Company has organized to conduct the species selection for key biological resources remediation. It researches the key technology of remediation of the coastal wetland vegetation and constructed the science popularisation exhibition room of marine ecological environmental protection. It carries out further study on the current situation of genetic resources of the biological remediation species in Shandong typical sea areas to make the protection policies of coastal wetlands and vegetation.

The construction project of eco-village in the beautiful Weizhou Island

CNOOC positively supports the healthy development of villages in the Weizhou Island, financing and planning the layout of environmental protection facilities of Zitongmu Village in Weizhou Island. It has carried out the village road reconstruction, centralized construction of waste water and rainwater and environmental protection campaign among others. It has protected the biological resources and ecological environment of Weizhou Island and the surrounding sea area, improved the villagers' level of awareness of natural environmental protection and made a positive contribution to the construction of beautiful Weizhou Island.

Chinese White Dolphins protection project

Chinese White Dolphins belong to the first level protected species in China, and are listed in the near threatened species by IUVN. Influenced by human activities, their number and diversity are continuously reduced. Their population in Pearl River Estuary and Xiamen appears differentiation in genetics.

CNOOC proposes to make constructive protection strategies for the protection object of Chinese White Dolphins in the water areas of Fujian, Guangdong, Hainan and Guangxi. It comprehensively masters the information of population quantity and distribution range of them in China sea area and then defines the potential and key habitats of them. It is planned firstly to take one year's time to conduct the small population dynamic monitoring and risk assessment of them in Xiamen City, and Shantou City, etc. and then complete the investigation of their distribution range and core habitat.



**Special
Topic**

**ECOLOGICAL PROTECTION
CONTRIBUTES TO A BEAUTIFUL CHINA**

CNOOC sticks to its initiatives, always cares for the surrounding environment and proactively contributes to the construction of a beautiful China and makes great efforts to promote the harmony between human and nature.

In the Bohai Sea, the finless porpoises are swimming around the oilfields, eastern cattle egrets are flying to the offshore platform and the larga seals constantly have a short break on the subsea pipeline facilities; in the South China Sea, whale sharks occasionally visit Weizhou Oilfield, dolphins come to the Enping Oilfield from time to time and the wounded hawks are taken good care of; in the sea shore, millions of fries are released to the sea, egrets are wandering and flying in Diefu mountain with the vicinity of natural gas plant; in the North Pole, the CNOOC staff are in harmony with the various living things and carefully protect the last piece of pure land on the earth...



DRIVING SOCIAL PROGRESS

CNOOC proactively promotes and adheres to the parallel performance of economic, environmental and social responsibilities. We believe that the fundamental of enterprise social responsibility is to facilitate the economy and employment by enterprise development. In 2016, the Company upheld the “people-oriented” philosophy and cared for its employees. We continued to devote to humanitarian engagements with a yearly total investment of RMB 136.08 million.



EMPLOYEE DEVELOPMENT

Employees are the most valuable resource and asset of the Company. CNOOC pays close attention to staffs' interests and development, adheres to the principle of "people-oriented and care for employees", seriously fulfils its responsibility to the employees, respects their legal rights and interests, expands their career development space, concerns their physical and mental health, improves work environment for them to achieve the common development of the Company and the employees.

Rights and Interests

CNOOC strictly abides by laws and regulations of United Nations and the countries where its business are located. It faithfully implements the relevant international conventions approved by the Chinese government, respects human rights and pursues equality. We proactively advocate our partners, suppliers and contractors to make common efforts to observe relevant regulations. We follow the principle of fairness, impartiality and transparency for recruiting people on the basis of qualities required for the job. We strictly carry out various employment policies without any discriminatory provisions or behaviours to establish harmonious and stable labour relations and maintain employees' legitimate interests.

Salary and Welfare

CNOOC strictly abides by the Labour Law, Labour Contract Law and Employment Promotion Law, adhering to annual leave with payment and other related laws and regulations. It ensures the employees' legitimate rights and interests and strives for providing the employees with salary and welfare competitive in the same industry. The Company gradually establishes the distribution mechanism that matches market mechanism and connects the working value and contribution, so that the employees could share the achievements of the enterprise.

The Company establishes a comprehensively effective employee welfare system, featuring social basic insurance (endowment insurance, medical insurance, employment injury insurance, unemployment insurance and maternity insurance), supplemented insurance (personal accident insurance, commercial supplementary medical insurance, and juvenile children supplementary medical insurance), and occupational pension and housing allowance.

The Company pays attention to and ensures the occupational and psychological health of all employees, establishes and improves the labour protection mechanism, strictly implements employees' periodic health examination and special health examination, and distributes the labour protection appliances and heatstroke prevention subsidy in time. It encourages the employees to take vacation for wellness and issues a one-off resettlement subsidy and comprehensive subsidies to the inter-regional employees.

Employment Policies

CNOOC respects for staffs' legitimate human rights, value, individuality and privacy of staffs with different cultural backgrounds. With the core of contract management, the Company standardizes the market labour management based on position



management. It strongly opposes any kind of inhumane treatment or forced labour and strictly conforms to the specifications related to the wages, overtime hours and legal welfare in the region where the operation is conducted. The Company adheres to the principle of "gender equality and equal pay for equal work", and treats the staffs equally without discrimination in terms of recruitment, training, promotion and salary, regardless of race, nationality, faith, gender, age, marital status and special legal protection.

In 2016, the total number of the Company's staff was 106,000, in which female employees accounted for 20.9%, middle-level and higher-level female managers accounted for 11.3%, minority employees accounted for 2.7%, and the localization rate of overseas staff accounted for 70.8%. 249 graduating students were recruited, with the rate of signing labour contracts being 100% and the coverage rate of social insurances also being 100%, and staff turnover rate being 2.6%. During the whole year, the Company neither found any violations, such as child labor and forced labor, nor received any complaint of violation of human rights in any regions.

Democratic Management

CNOOC constantly improves the employee democratic management system and makes full use of employees' roles in the democratic decision-making, administration and supervision of the Company. It effectively protects the employees' rights to be informed, to oversee, to participate and to be heard, safeguarding employees' democratic and legitimate rights and interests. Since 2008, the Company has carried out the investigation of employees' satisfaction according to the principle of "all-staff participation and scientific sampling". The employees' satisfaction in 2016 scored 7.62 out of 10, decreasing by 1.6% compared with 2015.

The Company, through the labour unions at different levels, protects employees' legitimate rights and interests, and supervises Company's fulfilment of responsibilities and duties, with 100% of employees participating in labour unions.

The Company issued Opinions on Strengthening and Improving the Party's Mass Organisation's Operation by the Party Group of the Head Office and Detailed Regulations for Establishment and Management of Workers' Congress of the Affiliated Units of the Head Office. It works for improving the enterprise democratic management system and the factory affair disclosure system with the basic form of workers' congress, so as to strengthen the protection rights of labour union. Channels for reporting employees' opinions and transmitting to lower levels were effectively unblocked and channels for democratic management were further broadened through the form of collecting proposals for workers' congress, suggestion box, the leaders of Party Organisation Reception Day, the General Manager Reception Day, on-site officing of basic levels, publicity of factory affairs, replying on internet forum, WeChat, MicroBlog and other new media, allowing employees to fully express their opinions and to participate in democratic decision-making, administration and supervision. In 2016, up to 20,000 items of rational advice from employees were collected, in which more than 5,000 items of good advice were adopted.

Normalisation of Party Group Leaders Reception Day

CNOOC held a total of 12 Party Group Leaders Reception Day activities for the entire year. On January 26, 2016, the Party Secretary and Chairman, Yang Hua, conducted a "zero distance" communication with more than 70 staff of the head office on the subject of "survival and development under low oil price" for the first time. He analysed the far reaching influence of low oil price on the development of the Company in the future according to the current oil price. He introduced the practice commonly adopted by the international counterparts to resist the severe situation of low oil prices and answered the employees' questions related to innovation and entrepreneurship, party construction and new media construction. It is generally accepted that the activity widened the communication channel for employees to participate in democratic management and was helpful for the employees to reach a common consensus on the reform and development of the Company.



Career Development

In pursuit of its people-oriented philosophy, CNOOC provides its employees with equal and open growth environment and clear access to professional growth. According to the characteristics of different specialized groups, we have designed three career development accesses: management, technology and work, besides establishing a training system of “four in one” with respect to selection, training, assessment and promotion & qualification authentication, so as to improve personal professional ability and work performance step by step in a planned manner.

Career Access

CNOOC always regards training and selection of excellent young talents as a significant strategic task of ensuring national energy supply safety and sustainable development of the Company. It constantly improves the construction of three channels and mechanisms of science and technology, management and operation, while rationally simplifying and shortening the staff promotion ladder and setting broader conditions so that more excellent young talents can have the opportunities to stand out.

The Company continues to promote the scientific and technological young talents cultivation project and provide dual tutors to the first batch of 136 young talents. It organized two periods of trainings for them and held five professional young talent forums of exploration, development, drilling and well completion, offshore engineering, refinery & petrochemical and gas power to provide the opportunity for the young talents to communicate with the high level experts and rapidly develop them to be professional technical leaders and medium and high-end technical management talents, so as to realize the strategic succession of talents in the Company.

The Company reinforces management on occupational qualification. We improve the certification policies of internal occupational qualification, perfect occupational qualification management system, and strictly implement Company’s Management Rules of Professional Technical Qualification as well as 6 supporting detailed rules, constantly improving talent evaluation level. In 2016, 646 individuals were qualified for the positions of senior technical professional. In terms of exploration, borehole and drilling and completion operation, 25, 62, 7, 9 and 439 individuals were qualified for senior general supervisor and general supervisor, senior project manager or above level, senior project manager and project manager and below level positions, respectively.

The Company actively participates in the selection of national high-end talents. In 2016, as many as 19 individual candidates were recommended for special government allowance, 4 individual candidates for national technical experts, 3 candidates for participating in Central Enterprise Outstanding Young Talents Support Plan, 2 candidates for Chinese Skills Award, and one was selected as one of the scientific and technological innovation leading talents for “Ten-Thousand Talents Program”. It selected technical and skillful experts, as well as 38 people as the third batch of Headquarters technical experts, and 17 people as the third batch of skillful experts in the affiliated units of the Head Office.

136

Dual tutors were provided to the first batch of 136 young talents

25

25 individuals were qualified for the positions of senior general supervisor for exploration, borehole, drilling and completion operation

The Company effectively promotes skill appraisal. We have organized the development or revision of test libraries on 12 types of work, laying a solid foundation for training and appraising skilled employees. In the meanwhile, appraisals of junior, semi-senior, senior, technician and senior technician levels were organized for 70 types of work, with the number of appraisals totalling 8,490 person-time. The Company attaches great importance to the cultivation and selection of high-skilled talent by holding technician innovation training class and organizing skills and innovation exchanges. We actively participated in national and industrial skill competition with the outstanding achievements. Therein, four individuals, including Chen Keying from Zhanjiang branch, were awarded the title of national technical experts. Moreover, the competitors dispatched by the Company were awarded No.1 individual for two items, No.2 and No.3 individual for one item and second group prize in 2016 (the 4th) “Jiake Cup” International Welding Skills Competition.

Employee Training

CNOOC constantly improves talent training system according to different levels and stages, besides creating a platform of employees’ ability training and potential development.

In 2016, the Company compiled the “13th Five-Year” talent development plan, put forward 10 major measures to strengthen the construction of talent team and designed “213” talent engineering, knowledge management engineering and five major plans of talent development. The Company equally emphasises “long-term cultivation and short-term effect”. It regards compiling and implementing CNOOC’s annual key training plan as emphasis point and cultivates the important, urgently required and key talents, considering whole staff training of three teams. In 2016, the Company carried out 46,499 training courses, with 819,000 person-time, 821,086 hours of training and on average 86 hours per person, in which the international talent training was carried out for 14,556 hours per person.

819,000

819,000 employee were trained in the entire year

821,086

Total training hours reached 821,086 in the entire year

CNOOC “13th Five-Year” talent development plan

The Company advocates the principle of lifelong learning and has built a categorised, hierarchical and systematic training system. We encouraged staffs’ online learning by means of information platforms, such as “Employee E-Bookshop”, “CNOOC Online Video Platform”, “Online Schools”, “Learn in China”, etc. In 2016, we organized the contest of “Good Lecturers and Good Courses of CNOOC” for the first time to select 40 CNOOC excellent courses from 1,009 independently developed and applied courses and select 10 CNOOC good lecturers from those who applied for the courses. The type selection of online study platforms is completed and trial operation of it is started in the pilot units. The “cloud classroom” system independently developed by CNOOC Zhanjiang Branch can meet the management needs of talent development and cultivation.

First Technician Innovation Training Class held by CNOOC

In July 2016, the Company held “2016 Technician Innovation Training Class” with 63 technicians and above level in participation. The training opened up new innovation ideas of high-level technical talents and strengthened their ability to analyse and discuss innovative approaches besides mastering the innovation tools with the combination of the on-site cases, so as to promote them to make contributions in the cost reduction and efficiency enhancement activity of the Company.

CNOOC listened to the voices of young scientific research personnel

In May 2016, CNOOC conducted a survey titled “Behavioural Habit and Demand of Young Scientific Research Personnel” and individually interviewed 561 young scientific researchers. The survey result showed that the prominent problems encountered by them in their research were as follows: It was hard to guarantee time for research; it was difficult to apply for research fee; it was hard to publish, to appraise, and to popularize their research achievements. Based on the result of the survey, CNOOC improved its mechanism to open up “private space” to the young researchers for innovation and invested an additional RMB 3 million on a yearly basis to support youth innovation projects. It also built a platform to share the innovation resources to the great extent by making use of the Internet in order to effectively motivate the innovation vitality of those young researchers.

Career Health

With the “people-oriented” philosophy, CNOOC constantly perfects occupational health management system, actively improves the operation environment, strengthens the identification, analysis, evaluation and control of occupational disease hazard factors in workplaces, and comprehensively applies occupational health management system, realizing entire coverage of occupational health surveillance. In 2016, pre-evaluation on 44 projects for occupational disease hazards and evaluation on 54 projects for the effect of occupational disease hazard control were taken, with 100% coverage of occupational disease hazard periodic surveillance and the occupational health examination rate reaching 99.91%. The annual incidence rate of occupational disease was 0.003%. During the whole year, 3 cases of newly added occupational diseases were properly settled according to relevant requirements.

The Company focuses on staffs’ physical and mental health and enhances health promotion through “Health Embraces CNOOC”, the CNOOC’s employee health promotion management system. CNOOC launched the psychological health information service and pressure and psychological health management, expanding to offshore staffs and parts of staffs in the headquarters and institutes. By the end of 2016, a total of 77 offshore and onshore work units of CNOOC had constantly conducted the pressure management services and served more than 4,900 employees, positively relieving the staffs’ mental stress. It also carried out “Q & A of career health” through WeChat platform for group-wide occupational health knowledge publicity.

“
**VIGOROUS
CNOOC**
”



Building offshore food security network

CNOOC catering company established 15 food detection labs, covering 63 detection indexes and more than 50,000 inspections annually, so as to ensure the safety dining of 50,000 people per meal per day. It independently carried out the scientific research project of “Research and Application of Offshore Platform Catering Materials Nutrition Maintenance Technology”, established Food Storage and Distribution Packing Technology Standard, and was awarded two software copyright certificates and three patents issued by National Copyright Administration. It established “Offshore Oil Nutrition Catering Management System” to automatically calculate the nutrition caloric demand and nutrient per capita based on the parameters such as number, age, intensity of labour and health of the personnel who have dinners and to form the healthy and nutritional recipes, and to conduct the monitoring analysis and early warning of the dietary data of the diners.

CNOOC Tianjin Branch adopted multiple measures to care for the employees’ health

CNOOC Tianjin Branch adopted multiple measures to care for the employees’ physical and mental health to strengthen the prevention and caring of occupational diseases and carried out various “health promotion” work. It regularly organized the staff for physical examination and created the physical examination archives for them. It provided the alert service of disease review, established the model of safe production-psychological health to carry out the psychological counselling by means of network, 400 psych-consultant hotline, on-site consultant, emergency psychological intervention for unexpected events and 3-month follow up interview and establishing Home of Staff, etc. It regularly organized the occupational health and safety training and enhanced the staff’s health protection consciousness in the form of performance appraisal. It conducted the occupational disease prevention and control work and established and improved the responsibility system for occupational disease prevention and control and management measures. It carried out occupational health monitoring and informed the staff of occupational hazard in the contract. Moreover, it installed warning and alarm devices in the workplace and established the emergency rescue plan of occupational hazardous accidents while regularly carrying out drilling.



Caring for Employees

Employees are the source for sustainable development. We uphold the philosophy of "people-oriented" and adhere to the distribution principle of "efficiency first, considering fairness". We have established a linkage mechanism and a normal growth mechanism for employee remuneration and outcomes of enterprise development, leaning towards the front-line, low-income and low-level posts. The Company improves employee welfare system, highly emphasises on assisting needy employees and timely helps the families of needy employees in settling the troubles of their everyday lives. The Company constantly improves employees' working and living conditions, carries out various caring activities, strives for ensuring that employees balance work and life and helps promote employees' happiness.

Balancing Work and Life

CNOOC advocates "Happy Work and Happy Life" and cares for the employees' life in an all-round way in the spare time after their hard work of offshore operation. It opens up a warm recreational corner in the nervous and busy work and organizes colourful recreational and sports activities of the employees to balance their work and life.



Assisting Employees in Need

In order to help employees in difficulties, the Company took the initiative to create assistance model combining "relief, service and poverty alleviation", issued CNOOC Employee Poverty Alleviation Management Method (Trial) and carried out activities, such as helping internal needy employees, assistance volunteering and donation to achieve "door to door" poverty alleviation.

CNOOC carried out special activity of "visiting the employees' families in special need to send warm support", so as to visit and convey greetings to the employees who are in special difficulties in their family lives caused by illness or unexpected accidents and provide financial relief. The Company issued special assistance fund of RMB 3.93 million and helped 603 households of employees in special need, delivering the Company's concern and warmth to employees.

When the flood disasters took place frequently in the summer of 2016, CNOOC labour unions at all levels immediately conducted the work to find out the conditions of the disaster affected employee families to give support for them in time. It visited more than 700 households and issued more than RMB 800,000 of condolence payment.



The Company leaders condoled employees in special difficulties in their family lives





HUMANITARIAN ENGAGEMENT

Humanitarian engagement is one of the main methods to fulfil our social responsibility. CNOOC Marine Environmental and Ecological Protection Public Welfare Foundation is the unified management platform for public welfare programmes, such as charity and environmental protection carried out by CNOOC. In 2016, we made efforts to fixed-point poverty alleviation, caring for students, special public welfare and other philanthropies.

Helping pupils in Yunnan Province to realize the dream of holding sports meeting

On March 31, 2016, the labour union and league committee of CNOOC EnerTech jointly launched the initiative of “caring for students”, organized the employees to carry out donation activity for the schools in poverty mountain areas and purchased the equipment and prizes necessary for sports meeting with the money raised through donation, helping the children to realize the dream of sports meeting.

Hearing Rehabilitation Project

On October 20, 2016, the donation ceremony of “Hearing Rehabilitation” project was held in China Hearing and Language Rehabilitation Research Centre. CNOOC Public Welfare Foundation donated RMB 500,000 to the China Foundation for Disabled People to fund for 50 poverty-stricken deaf children to receive the artificial cochlea implanting operation.

Nine years of persistence lighted the hope

As the first domestic fund company taking the children of rural migrant workers as the main donation object, the CNOOC Foundation, managed by Zhonghai Trust Co., Ltd., launched a series of activities of environmental protection and caring for students with the theme of “It takes ten years to grow trees, but a hundred years to rear people” in early 2008. It helped the migrant workers’ children in Shanghai and the left-behind children in Tianma School of Dujiangyan City, Sichuan Province through targeted love donations, establishing “Music Education Special Fund” and assisting the construction of “Loving Care Book Bar”, etc. In 2016, CNOOC Foundation was awarded the prize of “Fund Company with Most Social Responsibilities” in the selection of “2016 Oriental Wealth List”, jointly sponsored by www.eastmoney.com and www.fund.eastmoney.com.

Charitable Foundation sent warmth to the society

On July 30, 2016, “Wenchang 13-1/2” Oilfield held the donation activity themed “Caring, Mutual Assistance, Gratitude and Inheritance” to celebrate the sixth anniversary of Guo Mingyi Charitable Foundation of the Oilfield in modest and practical ways. In the past 6 years, the Charitable Foundation received donations of more than RMB 110,000 from 462 donors and issued more than RMB 90,000 to help 16 employees turn the corner and three poor students to complete the high school studies and one poor student to complete the university studies.

VOLUNTARY SERVICE

CNOOC constantly advocates and promotes voluntary services. In 2016, CNOOC proactively advocated and organized voluntary service activities through the Company’s Labor Union, the Youth League Committee, and women’s organizations to deliver warmth and support to socially vulnerable groups and people in straitened circumstances in various forms, to publicize and popularize marine knowledge, and to provide care-taking services. Currently, the Company has 237 volunteering service teams and 10,527 young volunteers, and it organized nearly 207 volunteering activities of various kinds for the whole year with the participation of 35,920 young employees. CNOOC was awarded the honorable titles of “2016 Charity Committed Enterprise of China” and “Advanced Unit of Unpaid Blood Donation in Beijing”, and Chen Wei from CNOOC EnerTech won the honorable title of “Chinese Excellent Youth Volunteer”.



On June 29, the staff of Western South China Sea Petroleum Administration Bureau donated blood



The employees from Bohai Petrochemical Administration helped the children of “Shepherd’s Field” repair their bicycles



The charitable activity launched by CNOOC attracted the spontaneous participation of nearly 1,000 volunteers, citizens and tourists



The children are exploring the secret of “environmental protection ship”



Young volunteers from Eastern South Sea Huizhou Oilfield visited autistic children in “Xingguang Rehabilitation Centre”



Employees from CNOOC Gas & Power Group Zhejiang Branch visited the elderly in the nursing home



Typical public welfare character-Zhao Yao

Engineer Zhao Yao of CNOOC Shenzhen Branch actively promoted the social work of public welfare with Chinese characteristics. In 2014, Zhao Yao established Qing Yuan Academy in Jingzhou City to transform full-time public welfare to professional social work and cultivated four certified social workers and absorbed 20 professional charity volunteers to go to the households, communities, schools, enterprises and public institutions to carry out activities, such as inheritance of Chinese excellent traditional culture, psychological and legal assistances etc. He launched various voluntary charitable activities for women, children and elderly people. More than 80,000 people were benefited.



Special Topic

MANIFESTING CNOOC'S RESPONSIBILITIES THROUGH TARGETED POVERTY ALLEVIATION

With endless love and sense of responsibility, CNOOC adheres to the poverty alleviation principle of "overcoming difficulties, supporting foundation, blood generation and establishing long-effect mechanism". In the past 21 years, we have invested more than RMB 420 million of poverty relieving fund with 36 cadres to support Tibet. We help implement the poverty alleviation programmes and carry out the targeted poverty alleviation in the fixed-point poverty alleviation cities and counties under Hainan Province, Gansu Province, the Inner Mongolia Autonomous Region and the Tibet Autonomous Region. We accelerate overcoming poverty and achieving prosperity of the local residents, enhancing local "blood generation" capacity.



Hainan Province

- We conducted dilapidated house transforming for the poverty-stricken households which established the records, settled the drinking water problem of the schools and developed the tourism.
- We continued to support "Young Phoenix Children Education Fund".
- We solved the water, electricity and road shortage problems dedicatedly and built the road and drinking water engineering.
- We supported tourist training.
- We started "saving emergency" project to provide financial assistance to people suffering poverty or return to poverty caused by disasters, diseases and schooling.



Gansu Province

- We implemented the construction of well-off village of ecological civilization to improve their appearance, developed industry to increase villagers' income and protect environment.
- We provided assistance in the construction of health centre in the cooperative cities, towns and villages and Traditional Chinese Tibetan Medicine Hospital, and purchased tents, livestock and forage and constructed warm shed for the shepherds in Xiahe County.



Inner Mongolia

- We launched rural cleaning project, financed RMB 600,000 to help 100 people for work relief.
- We conducted the maintenance and reconstruction of the "Sanshun Road" to effectively improve the travel conditions of 2,000 people in the eight administrative villages along the road and created conditions for nearby villages to become well-off.
- We implemented drinking water support project of Geda Village to solve the drinking water shortage problem.



Tibet

- The parking lot poverty alleviation project constructed by CNOOC.
- Meat processing plant constructed by CNOOC.
- The two maintenance and renovation projects of hotels in Nima County and the comprehensive building.
- The rural cleaner project supported by CNOOC to provide public service positions for 100 poverty-stricken people.

Province	Name of Province	Total Investment Poverty Alleviation Fund (RMB 10,000)	Investment in 2016 Poverty Alleviation Fund (RMB 10,000)
	Hainan Province	9,260	600
	Gansu Province	5,000	1,000
	Tibet	27,000	1,300
	Inner Mongolia	1,200	300

Caring for Students

CNOOC makes efforts to improve the educational environment of poverty-stricken areas and helps the students in these areas grow healthily. By aiding the construction of Hope Schools, funding needy college students and others, we have reduced the financial pressure on students from impoverished families, created a good learning environment for students and enhanced the education level of poverty-stricken areas. "CNOOC University Educational Assistance Fund", jointly set by CNOOC and China Soong Ching Ling Foundation, has seen operated for 13 years. A total of RMB 40 million has been invested for funding more than 13,000 needy students in 37 universities.

On October 17, 2016, "CNOOC University Educational Assistance Fund of 'Youth, Responsibilities and Accountability'" 2016-2017 school year project signing ceremony was held in Beijing Soong Ching Ling's Former Residence as a prelude to the next period of cooperation.

Lifeline Express

Since 2003, CNOOC has been supporting the "Cataract Patients Supporting Project" of the Lifeline Express and has accumulatively donated nearly RMB 16 million.

Two eye centres were constructed under the assistance of the Company in Gansu Province and Inner Mongolian Autonomous Region. They provided services radiating to the cooperative cities and Xiahe County of Gansu Province and Zhuozi County of Inner Mongolian Autonomous Region of CNOOC fixed-point poverty alleviation programme. The three treatment centres have provided cataract operations to 17,347 poor cataract patients with the reduced operation fee or for free.

Mother Water Cellar

In 2016, the drinking-water safety in the beautiful villages and schools and small-size water conservancy engineering construction of "Mother Water Cellar" project was implemented. In addition, 6 schools in the fixed-point poverty alleviation programme in the Zhuozi County were provided with 6 solar water purification equipment through "drinking-water safety in schools" project to solve the problem of excessive bacteria in school's water.

"1+1" Legal Volunteer Programme

In 2016, CNOOC continued to support "1+1 Legal Volunteer Programme" implemented by China Legal Aid Foundation in the no-lawyer counties in remote and border areas. Therein, the Baoting County of Hainan Province received the key legal assistance.

"I would like to extend my heartfelt gratitude to CNOOC for their concerns on legal assistance cause and their strong supports to the legal assistance cause in Hainan Province! Thanks to the great support and assistance of your company to the legal assistance work in our province and especially in Baoting County, the poor people in the ethnic minority areas can access quality and efficient legal service in the neighbourhood."
— Hainan Provincial Department of Justice



CNOOC "Blue Force" youth voluntary activity is aimed at carrying out voluntary, environmental protection and public welfare projects of scientific development and protection of the oceans. 237 "Blue Force" young volunteer service teams and 10,527 young volunteers are involved in building the communication bridge between young employees and enterprises, and between enterprises and the society.

With the goal of establishing harmonious family, harmonious mining area and harmonious CNOOC, the Company encourages the employees to actively participate in the voluntary services and public charity activities. It carried out activities, such as cleaning the beach, campaign of environmental protection, planting of corals, closing to Blue Force, supporting education, voluntary supporting agriculture, charity sales and community services, etc. CNOOC, together with the medium and large-scale institutions and social media, has launched projects of large-scale survey on maritime consciousness of the Chinese youth along with the youth micro-public welfare action of "Blue Force, Love Marine", so as to promote the conservation of marine environment. Since 2015, "Blue Force" volunteer service team has been financed by CNOOC Public Welfare Foundation and has carried out all kinds of micro public welfare activities more extensively.

In 2016, CNOOC "Blue Force" continued to adhere to the strategy of "serving enterprises and contributing to the society" and drove the voluntary service to standardization, normalization and branding. It innovated the means of voluntary service and developed "Blue Force" youth voluntary service APP and built the "Internet+" public welfare model. In 2016, CNOOC "Blue Force" was selected in the Top Ten voluntary service brands of central enterprises.



Screenshot of "BLUE FORCE" APP



"Blue Force"

— Top Ten Voluntary Service Brands of Central Enterprises



01 A couple of volunteers, due to be married soon, visiting the children at the Shepherd's Field, Wuqing District, Tianjin

02 Volunteers of Shenzhen Electric Power Co., Ltd. and Dapeng LNG Receiving Terminal jointly carried out the activity of "Speed Environmental Protection Challenge of Blue Force"

03 400 pupils participated in the activity of "100-Meter Long Mural Painting" to draw the offshore platform in their minds

04 "Blue Force" volunteers were cleaning the beach

05 Weizhou terminal staff explained industrial knowledge of energy-saving production, safety fire control and etc. to young volunteers

06 Getting close to the blue sea and caring for sea turtles

07 "Blue Force" invited teachers and students in Beihai City to enter the Weizhou Terminal

INTEGRATION INTO THE COMMUNITY

With 100% environmental and social influence evaluation of new projects, CNOOC proactively commits to serving the community, creating harmony and bringing benefits to people, besides establishing the periodic communication with community and listening to rationalization proposal of local governments and community residents. We make efforts to share our resources with communities, proactively carry out community building and pay back with our development. We help the residents settle life difficulties, improve local ecological environment and create safety and harmony in the communities. We constantly carry out the heart-warming projects to effectively improve the residents' living standard, drive the community culture construction and build a beautiful home.



Proactive participation in maritime rescue

In 2016, the Company, taking advantage of its resources, has been actively participating in social marine rescue on the premise of ensuring the operation safety. COSL participated in 22 marine rescue missions, dispatching its ships for 24 times to rescue 17 ships and 33 people.

Bohai Sea Petroleum Administration	On July 20, it rescued "Haiyuan 2768" freighter and four crew members.
Eastern China Sea Petrochemical Administration	It signed the MOU of maritime search and rescue with Zhejiang Bureau of Maritime Affairs. On September 27, 2016, it rescued five Taiwanese crew members on "Manfeng 36918" freighter.
Western South China Sea Petroleum Administration	On February 16, 2016, it rescued an engineering ship on fire in Sanya harbour. On August 19, 2016, it rescued a terminally ill pregnant woman in Weizhou Island. On October 26, 2016, it rescued the trapped crew members in the fishing boat "Guibeiyu 65828".
Eastern South China Sea Petroleum Administration	On October 5, 2016, it rescued "Rui Long Ling Bo" Yacht and eight crew members on it.
CNOOC EnerTech Logistics Huizhou Company	The Harbour tugboat "Hai Yang Shi You 503", "Hai Yang Shi You 504" were awarded the honourable title of "Ocean Warriors and Rescue Model" granted by Marine Emergency Rescue Centre of Huizhou City.

CSPC in the communities

Upholding the sustainable development philosophy, CSPC attaches great importance to the harmony development of communities. It has carried out work from four aspects of community communication, education support, promotion of health and safety environmental protection concept and employee volunteering service.

CSPC has adopted an active public communication strategy, in addition to the "Open Day" activity held in the communities for different objects. It has conducted the educational support programmes of "Scholarship for Tomorrow", "Realizing the Gardeners' Dream", "English Corner in the Community" and "Sunshine Classroom", jointly with functional government departments, schools and other units. Besides, CSPC has proactively conducted the sharing activities of "Traffic Safety Funny Day", "Defensive Driving Learning Activity", "Road Safety Patrol Inspection System", etc. for many times, jointly with Daya Bay government and petrochemical industrial park.

In addition, volunteer team of CSPC employees is the main force to implement community caring activity. 6 special voluntary service sub-teams have carried out more than 100 community caring activities independently in the past 6 years since its founding in 2010.



2016 CSR REPORT OVERSEAS

Deeply Integrating into Global Economy
Joint Development for Bright Future



Special Topic THE GLOBAL PRESENCE OF CNOOC'S PRODUCTS AND SERVICES

As an international energy company with a complete production chain, the products and services of CNOOC are well favoured in the market in and abroad throughout the five continents with various categories such as refined oil product, sodium carbonate, chemical fertilizer, coating and chemicals, etc. The Company-owned brands of "CNOOC 36-1", "Haijiang", "Awode", "Yuandu", "Baiqing" and "Zhonghai Jinzhou" enjoy a very high reputation in the international market, in which the "CNOOC 36-1" asphalt was ever used for the construction of the Brazil's Olympic Stadium, the "Haijiang" lube has made great contribution to the construction of multiple projects of "The Belt and Road Initiative", the "Awode" coating has been applied to several strategic projects of Russia, Pakistan and other countries as a high-end coating, the marine chemicals of "Yuandu" and "Baiqing" are sold well in more than 10 countries, and "Zhonghai Jinzhou" pipelines have been exported for more than 30 tons.



Diesel	Jet fuel	Gasoline	Asphalt	Lube	Urea
Demulsifier	Water Clarifier Defoamer	Coating for Colored Sheets	Nuclear Power Coatings	Sodium Carbonate	
Sodium Nitrate, Sodium Nitrite	Calcium Chloride	Pipelines	Catering	Barrack	

ECONOMIC GROWTH OVERSEAS

Development Overseas

In 2016, CNOOC attached great importance to the stable and sound operation of the overseas business. Therefore, it continued to achieve a good operation performance and made new breakthroughs in multiple regional markets. The percentage of the overseas assets of the Company by the end of the year was 38.8%.

CNOOC Ltd. continued to be well recognized in the international capital market. It continued to be listed in the annual "Platts Energy Top 250" and was awarded again the honorable titles of "The Best Investor Relations Company (China)", "The Best Corporate Governance", "The Best CEO in Asia (Investor Relations)" by the Corporate Governance Asia journal in 2016. In addition, it was awarded the titles of "Annual Enterprise Awards-Platinum Award" by "The Asset" and "The Listed Company with the Most Valuable Brand Value" of "Golden Bauhina Awards" in "Ta Kung Pao Newspaper". The CNOOC President Yang Hua won the prize of "The Most Influential Leader of the Listed Company" of "Golden Bauhina Awards" in "Ta Kung Pao Newspaper". In 2016, the overseas crude oil output of the Company was 31.42 million tons, and the natural gas output was 11.57 billion m³.

COSL highlighted the overseas business. Based on the original overseas market scale, the company entered three new markets in Russia, Saudi Arabia and Oman respectively and newly signed 128 overseas contracts with the total contracts amount up to RMB 4.41 billion, in which 10 contracts boast the contract amount of over RMB 100 million. For the first time, the company entered the arctic region for its operation.

COOEC has constantly achieved good results in the international projects. The company is operating 7 international projects. The YAMAL Project has set the record of safety without accident for 38 million working hours. The Zawtika 1B Project in Thailand was put into operation ahead of schedule. The FPSO Project in Brazil has completed the extra long distance international sea towing operation with the voyage for about 11,800 nautical miles, which set a new record in the towing distance of COOEC.

CNOOC EnerTech completed its layout in overseas markets. In 2016, the company has basically completed the layout of its overseas businesses and established 5 regional centers in the Middle East, Asia-Pacific Region, Africa, South America and North America, 3 overseas investment companies and 14 overseas holding subsidiaries with its businesses covering more than 20 countries. It has launched 15 management systems and regulations successively and has guided its various regional companies to establish 95 internal control management sub-regulations. It cooperated with PEMEX to establish the oilfield technology service company which obtained promotion in EOR industrial research and implementing operation in Indonesian market.

CNOOC Gas & Power Group operated its international business steadily and soundly. The total annual LNG imports were 16.52 million tons with the year-on-year growth rate of 26%, reached a historic high. It has constantly deepened the cooperation with the resource parties and other buyers.



In 2016, "Hai Yang Shi You 720" worked continuously in the North Pole and the equator, setting the highest record of the monthly output of the 3D seismic acquisition in China.

COSL set several records in its operation in the North Pole

In 2016, a large fleet made up by the five large-scale equipments of “Hai Yang Shi You 720”, “Hai Yang Shi You 718”, “Hai Yang Shi You 685”, “Nan Hai No. 8” and “Nan Hai No. 9” sailed to the North Pole for operation, which was rated as a breakthrough voyage, a pioneering voyage. The “Arctic Fleet” sailed all the way bravely to the distant and unfamiliar freezing waters of the North Pole where they left the first footprint of CNOOC and created several records of milestone significance and showed an excellent performance record card.

Nan Hai No. 9

- CNOOC's first drilling platform to serve in the Russian Far East market
- The semi-submersible platform with the longest wet towing distance in CNOOC
- The northernmost footprint of COSL drilling fleet in the Okhotsk Sea
- The first COSL drilling platform to apply the RMR system
- Installing BOP at -1.7°C at seabed in the Frigid Zone for the first time

Nan Hai No. 8

- Its first time to operate on the extremely cold Russian Far East Sea
- Its first operation to ultimate depth limit
- Its first operation after dock repairing and application of home-made facilities including the BOP
- Handling shallow layer gas during drilling for the first time
- Tackling with collapse-prone stratum and hard interlayer for the first time
- First test of the overall platform management under international standards

Hai Yang Shi You 720 Fleet

- The first Chinese seismic vessel to work above 75 degrees north latitude
- Performing its first 3D seismic survey in the Arctic
- Winning its biggest overseas 3D seismic survey service contract
- Making a monthly 3D seismic data collection record in Chinese seismic vessels
- Performing the first all-weather operation in the Arctic

Hai Yang Shi You 718 Fleet

- The first vessel of COSL to conduct 3D seismic survey in the Russian Far East Sea, the operation is sited at the middle east of Sakhalin

Hai Yang Shi You 685

- Its first operation in the Far East
- Its first operation in extremely cold and freezing area
- Its first overseas operation without a running-in period

The accumulated output of Nexen Buzzard Oilfield reached up to 0.6 billion barrels

On August 3, 2016, the Buzzard Oilfield of Nexen produced accumulatively 600-millionth barrel of oil, which was regarded as the most important milestone in its development history. This oilfield was the biggest finding in the North Sea in the past 20 years whose production accounted for about 25% of the total offshore crude oil production in UK and has met nearly 10% of the UK energy consumption. It made an enormous contribution to the sustainable development and the social welfare of the UK economy. It was estimated in 2003 when the oilfield was approved that the oilfield would produce 486 million barrels of oil in its life cycle. As a matter of fact, thanks to the great efforts made by the working staff of Nexen Petroleum UK Limited, the production of the oilfield is still much higher than that we expected after the production was stable for 13 years and it is estimated that this oilfield will continue to produce oil in the next 10 years.



AXION Energy, a wholly-owned subsidiary of Bidas Corp., won the “Best Oil Company Award” in Argentina’s national rich list. Up to now, AXION Energy has controlled 756 service stations in Argentina, Uruguay and Paraguay. In addition, AXION Energy was on the top in terms of sales volume of oil products in a single service station in the city of Buenos Aires.

The first core process module of COOEC YAMAL LNG Project has been successfully delivered and shipped

On April 9, 2016, the first core process module of the YAMAL LNG Project undertaken by COOEC was shipped successfully and delivered to the North Pole. This is the first LNG core equipment independently designed and constructed in China and also the first LNG core process module exported from China, which marks that COOEC has successfully mastered the construction technology of LNG core process module and that “Made by CNOOC” entered the international high-end oil and gas equipment market smoothly.



Located in the Arctic Circle within Russia territory, the YAMAL LNG Project is the world’s first integrated project of polar LNG exploration and development, liquefaction, transportation and sales. COOEC was responsible for the construction of the 36 core process modules of the project with the total weight of about 180,000 tons.

Nine oilfields in Uganda have obtained the development and production licenses

Nine oilfields/oilfield groups owned by CNOOC Uganda have obtained the development and production licenses in 2016. In the process of license application, the CNOOC Uganda fully exercised its power as the project partner and carried out negotiations and communication with the government, in cooperating with partners. It is a significant milestone for the company to obtain the development and production licenses in the development and production process of the resources in Uganda upstream.



CNOOC EnerTech and PEMEX established a joint venture

In September 2016, CNOOC EnerTech and the subordinate companies PPS Company of PEMEX, Mexico-based Petrofalcon Corporation jointly signed a framework agreement. According to the framework agreement, both parties will establish a joint venture to undertake part of the work of exploration, development and production of the land, coastal water and deepwater oil and gas fields in Mexico. CNOOC EnerTech will fully make use of its integration advantages to provide various oilfield technology services, equipment rental and leasing service, safety and environmental protection technology service, oilfield stimulation service and well workover service to the joint venture.

Compliance Operation

In 2016, CNOOC improved the overseas assets management systems such as the rules for implementation of foreign-related assets audit, overseas agency procurement management method and property management rules, etc. In addition, it strengthened overseas auditing, paid close attention to the conditions of improving quality and effectiveness of the overseas projects, and particularly, put forward some specific suggestions on the sensitive assets. It strengthened the trainings on overseas compliance operation by means of WeChat and on-site training and took an active part in the formulation of the relative laws and regulations of the country and the region in which it operates business.

The CNOOC Uganda participated in the formulation of the New Petroleum Law

Since 2011, the CNOOC Uganda has actively participated in the formulation of the New Petroleum Law in Uganda, in response to the call of the Ugandan government. In the revision process of the Petroleum Law, CNOOC Uganda and the cooperative partners proposed hundreds of revision opinions, organized and attended more than 10 seminars and made outstanding contribution to the come out of the New Petroleum Law. After the new law was promulgated, the CNOOC Uganda organized the working staff of the company to conduct detailed analysis and interpretation of the new laws.

CNOOC EnerTech carried out training on overseas tax laws and regulations compliance system

The Middle East Regional Center of CNOOC EnerTech continuously concerned and followed the changes of the tax laws and regulations of the United Arab Emirates and organized the legal institutions such as Deloitte Law Office and Yingke & Shayan Legal Consulting, etc. to carry out trainings on the laws and regulations of the influence on the oil and gas companies by the Value Added Tax proposed to be implemented in 2018 and those on establishing offshore company in the United Arab Emirates.



The International Company built a compliance learning platform

The International Company of CNOOC Ltd. made full use of the official WeChat platform to actively carry out the compliance training for the overseas operation. In 2016, the company developed a column of “Training World” on the WeChat platform to carry out “Popularize Law Class” activity. So far, 8 phases of detailed explanation of the US FCPA were carried out to focus on the description of the key terms and countermeasures on the FCPA in relative to the company business.

The CNOOC Iraq carried out legal training

In 2016, the CNOOC Iraq systematically classified, updated and researched the laws and regulations in 9 fields of the new labor law in Iraq, such as social insurance, HSE, company registration and compliance, import and customs, foreign judgments and enforcement, anti-corruption, government mandates and real estate in order to let its employees understand and observe the local laws. It carried out focused legal trainings on 6 special topics to improve the legal consciousness of all staff and effectively guaranteed the legal, compliant and contractual operation of the company.



Work Safety

Facing the complicated operating environment, CNOOC strictly adhered to the bottom line of safety production and carried out overseas safety production work persisting in scientific ways according to the laws and regulations for continuous promotion of the systematic construction, organizing the specific safety production inspection, promoting the safety culture construction and improving safety production performance. In 2016, the Company further urged its affiliated units to develop and improve the HSE administrative program for overseas projects as well as to regularly track the HSE risk of overseas projects and the project progress. In addition, the Company organized and conducted HSE examination for facilities in Nexen’s headquarters in Calgary, Canada and in Lang Lake oil sand deposit, conducted safety inspection during the equipment assessment of the delayed project in Indonesian SES Oilfield of the International Corporation of CNOOC Ltd., and carried out the pre-production safety inspection of new projects. It also highly focused on the overseas security situation, intensified the business communication with the international security consulting service companies such as Control Risks and international SOS, etc., and effectively promoted the establishment of the overseas security information collecting mechanism and the warning information releasing mechanism.

“The responsibility for safety supervision is significant. In the work, I am familiar with all the safety and environmental protection systems and documentation of the company, have learned to organize safety conferences, plan safety trainings and conduct routine safety inspections. To be a good security supervisor is not only for the development of the company, but also for the self-realization.”


—Habibi Mawardi,
excellent Security Supervisor of
CNOOC Southeast Asia

Nexen Petroleum UK Limited won Marine Safety Prize

In September 2016, The Scott Oilfield and Golden Eagle Oilfield under Nexen achieved non-lost-time accident for 1,000 days and two years respectively. In addition, Nexen Petroleum UK Limited won the Offshore Safety Award in the British oil and gas industry in 2016 through its outstanding safety performance.

Nexen Petroleum UK Limited won the Offshore Safety Award 2016.




 **Bob Smith**
the On-site Manager of Scott Oilfield

“This is the reflection of our safety production culture, team spirit and the conformance with the specifications of the platform procedure. During this period, although the various work content, sometimes the projects were very complex, which presented a number of challenges to the team; they overcame all the difficulties and guaranteed the mutual safety tirelessly. I acclaimed for their performance. This prize gave full expression to our cultural idea of ‘Safety First’ which facilitates our achievements of zero accident every day.”

 **Justin Hughes**
the Senior Manager of Golden Eagle Oilfield

“This milestone is of great significance to Golden Eagle Oilfield. It means that we have operated for two years without any lost-time accidents. This is the result from the unremitting efforts and hard work of our team. I appreciate very much that they are always giving priority to safety.”

 **Sam McKillop**
General Manager of HSE & A department

“Teams in Scott Oilfield and Golden Eagle Oilfield achieved excellent performance, which demonstrated the principle of ‘Safety First’ we adhered to in all our business activities. They mark the major milestones. Well done! Hopefully they can make persistent efforts!”

Missan Oilfield of Iraq paid close attention to security details

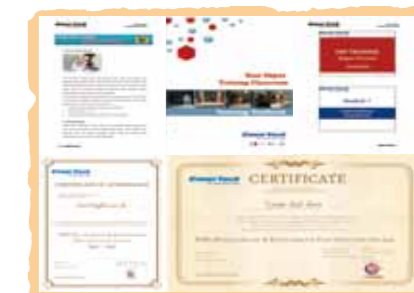
During the war, a large number of landmines were hidden in Missan Oilfield. CNOOC Iraq actively communicated and coordinated with Iraqi military demining organizations and DMA to carry out the demining work systematically to prevent the employees and the local residents from being stricken by the landmines. In order to ensure the safety of the local residents, the company also accessed to multiple local villages to give out anti-mine and UXO safety warning and issued the safety instruction card.

As the contractor of Missan Oilfield in Iraq, COSL attaches great importance to the security work of daily operation. The operating personnel shall make access registration and accept OPF inspection in entering or leaving the workplace and shall be approved by the managerial personnel. The operating site is protected with multi-layer protection facilities to guard against the possibility of suspicious personnel entering the operating area. The employees said, "The company has taken very strict security measures, we are provided with bullet-proof vehicles, bullet-proof vest and protection of security company from the airport to the oilfield. And in the oilfield, there are enclosed places and policemen are on duty. We have guaranteed security here which makes our family feel relieved and give more support to our work."

The Missan Oilfield Base in Iraq of CNOOC Energy Technology & Services Limited has carried out 17 times of trainings on various safety topics such as anti-mine, anti-Zika virus, prevention of hand injury, electrician operation, Five To-do's and Five No-nos and accident case analysis, and a total of 107 people participated; 6 times of emergency exercises such as fire emergency and emergency evacuation, etc., a total of 50 people participated; 7 times of safety education for the personnel coming to Iraq for the first time and a total of 12 people participated.

The Security and Environmental Protection Company built the safety physical training room in Indonesia

The Safety Physical Training Room in Indonesia built by the Security and Environmental Protection Company of CNOOC EnerTech is a comprehensive training base of HSE knowledge and skills, covering an area of 500 square meters. The design and construction of the training room are completely based on the actual operating environment of the land and offshore operation with the aim to improve the employees' HSE consciousness and skills through actual practices. Since its opening, more than 50 training courses have been conducted in the training room with a total number of participants of more than 1,200. The targeted trainees involved the working staff of 20 local companies and the relevant organizations and the customers' safety performance was greatly improved.



Southeast Asian Company was awarded the highest prize in safety management performance

HCML, a subsidiary of CNOOC Southeast Asian Company, acts as an operator in Indonesian SES section. The oilfield has been developed for more than 45 years. As production facilities become aging, the safety production gets into a more severe situation. By intensifying duty fulfillment, strictly searching potential problems, and conducting inspection and administration, HCML enhances safety management and greatly practices CNOOC's key value concept of "safety first, environment utmost, people-oriented and equipment intact" HCML's recordable incident rate was 0.07 in 2016, which is the best performance in safety production in its 45-year history of operation in SES section. In August 2016, at the 2016 Indonesian Oil and Gas Industry Safety Communication Forum, HCML received "Patra Nirbhaya Karya Utama", the highest award in safety management performance from Oil & Gas Department of the Ministry of Energy and Mineral Resources of the Republic of Indonesia, in recognition of its accumulative 3.22 million Lost Time Injury (LTI) free man-hours from November 2010 to March 2016.



"We are very grateful for the support and cooperation of CNOOC Iraq Limited that strictly enforced the demining standards and specifications of Iraqi Government and carried out fruitful management work of demining operation in Abu Garab Region of Missan Oilfield."

—Mibras,
President of DMA South Region



▲ Fire extinguishing training

▼ The demining organization of Iraqi Government granted the Certificate of Honor



▼ CNOOC Iraq carried out anti-mine education in the local village



Scientific and Technological Innovation

CNOOC has been committing to applying the advanced technology to the overseas projects, to encouraging the independent innovation of the overseas projects to overcoming the scientific problems. So far, the Company has classified and concluded several scientific and research achievements related to the key technological difficulties of the overseas projects for the application of multiple patents.

Nexen asphalt upgrading scientific research project was supported by the Government

In 2016, half of the research funds of the bitumen upgrading project led by Nexen was supported by Natural Sciences and Engineering Research Council of Canada (NSERC), which proves the recognition of Nexen's research capacity in this field. This research project was conducted by the oil research experts from the University of Calgary and University of Alberta in Canada and the researchers from multiple oil companies who are committed to the partial upgrading of the bitumen so that it can meet the requirement of long distance pipeline transportation.

The Overseas Evaluation Center of CNOOC Research Institute overcame the technical problem of overseas projects

The Australia Exploration Team of Overseas Evaluation Center of CNOOC Research Institute has performed a great amount of fundamental geological studies on 8 major basins offshore Australia, during which a quick assessment method based on Australia has been established. Up to 440 blocks have been evaluated in the last decade. The coverage of evaluated basins is comparable to the entire offshore area of China.

The Santos Basin in Brazil has superior accumulation conditions and is of vast resources. The Libra Oilfield, of which 10% shares held by CNOOC, is commonly recognized as one of the largest hydrocarbon discoveries in worldwide 21st century, however, it is facing various worldwide geological difficulties. The Brazil Exploration Team of Overseas Evaluation Center proposed new geological recognitions of this area, formed multiple geophysical technologies and geometrically described carbonate reservoir and igneous rocks. By applying these recognitions and technologies, the Brazil Exploration Team alerted CNOOC management and the operator of significant risks in the second exploration well in the central district, which was greatly appreciated by the partners.

In 2016, aiming at the key technical problems confronted for the development of overseas shale oil and gas, CNOOC Research Institute carried out researches around shale oil and gas productivity evaluation technology and method, followed up the latest international development trends, and conducted independent innovation research. A systematical set of shale gas and oil productivity evaluation system with four approaches supplement for each other was established initially, which will lay a good theoretical foundation for the development of domestic shale gas.

CNOOC Iraq focused on the basic research of reservoir

In 2016, The CNOOC Iraq published a monograph of Geology of Carbonate Reservoir in the Middle East and created a set of new technology, which is used to evaluate the reservoir of carbonate in the Middle East. *A Crack Detection Technology Based on the Wide Azimuth Seismic Data and Core Description*. The content of the patent is the completion of the wide azimuth 3D seismic data required for the development of oilfield and the processing results which were used to successfully guide the deployment of the Mishrif reservoir horizontal well and the drilling tracing, successfully evaluated the reserves potential of AG-2 well field, clarified the geological reserves and avoided the development risk in the southern part of Buzurgan Oilfield, expanded the approaches of reservoir dynamic analysis and simulation measures research, promoted the significant change of the oilfield development ideas from mainly concentrated on straight well development to mainly concentrated on horizontal well development and laid a solid foundation to adjust and optimize the oilfield stimulation plan with marked economic benefit.



The IT support service is synchronized at home and abroad

On September 1st, 2016, the "Overseas Call Center" of CNOOC started the trial operation. Employees in Australia, Singapore and other countries can enjoy the same IT technical support as in China by dialing "1331" directly via landline phone. Thanks to the Overseas Calling Center, the domestic technical team could help the overseas employees to solve the related IT problems directly by means of telephone and remote technology which greatly reduced the service response time, unified the service standard and decreased the service cost.

ENVIRONMENTAL PROTECTION OVERSEAS

Environmental Management

CNOOC aims to be a responsible energy supplier and tries to minimize the impact of energy on the environment through all kinds of technological means and actions so as to jointly create the sustainable energy in the future with all relevant stockholders in a clean, efficient and responsible way of operation in the countries where it operates.

COSL Mexico took an active part in the environmental protection and public welfare activities

Upon the arrival of the World Environment Day, employees of COSL Mexico came to the Carmen North Beach to carry out the environmental protection activity. The staff of COSL Mexico was divided into two groups to pick up cans, waste package and litters on the beach along the two directions of east and west respectively. Seeing this, some citizens who were doing morning exercises on the beach also joined in the team actively. The team of volunteers was getting bigger and bigger.

COSL Mexico actively responded to the initiative of the Isla Verde, the local environmental NGO, participated in Mexico's public environmental protection activity of "To co-build a Green Island" for recycling utilization of the used newspapers and publications. The employees packed the used newspapers and books they collected and sent them to the Conference and Exhibition Center of Carmen City, the activity venue, and were warmly welcomed by Ms. ELENA, the responsible person of this activity.

"As the first foreign company participating the environmental protection activity this time, COSL Mexico is a model for other local enterprises and is praise-worthy."

—ELENA,
the responsible person of the
environmental protection activity



Nexen disposed the sulfur waste with environmental protection measures

Nexen disposed 90,000 tons of pending sulfur in the Balzac Gas Power Plant in Alberta which was shut down with environmental protection measures. Instead of applying the traditional landfill treatment, the company used the biological composting facilities nearby to combine the sulfide with the biological fertilizer to turn it into fertilizer and supplied it to the neighboring sulfur deficient farmland. This move not only eliminated the sulfide waste, but also created USD 6.5 million benefits for the company.



CNOOC Southeast Asia persisted in carrying out environmental protection activities

SES, an affiliated unit of CNOOC Southeast Asia, persists in giving support for mangrove planting in Thousand Islands surrounding its operating region. With nearly 10 years of efforts, mangrove forests have formed scale, greatly contributing to water and soil conservation and ecological protection in these islands. In 2016, SES accumulatively invested USD 19,000 to assist the local NGO and communities planting 130,000 mangrove saplings in four islands, including Kelapa, Harapan, Panggang and Sebira. On the occasion of 2016 World Environment Day, SES also organized more than 70 volunteers to take part in the coast cleaning activity held on the southern island in its operating region.

▼ CNOOC Southeast Asia continued to carry out a variety of environmental protection activities such as protection of mangrove forest, picking up litter, etc.



Biological Diversity

The overseas operation area of CNOOC has diverse ecosystems with many biological species that have very important natural and social value. CNOOC carried out its operation in strict accordance with the biodiversity conservation rules of the United Nation and the countries where it operates, conducted in-depth research on the impact of ecosystem by operating activities and cooperated with local environmental protection organizations for systematic protection activities.

Nexen assisted in the protection of ancient mankind historical sites

The protection of biological diversity not only refers to the protection of other plants and animals, but also covers the protection of human's culture and lifestyle and understands the human being's way of life and influence in the natural environment as a biological population. In an archaeological activity in 2016, the archaeologists discovered the relics of ancient human activities near the Nexen's assets in British Columbia, Canada.

After learning the news, Nexen immediately sent a team formed by environment experts and surface land experts to actively assist the archaeologists to unearth and protect the historical sites and was highly appraised by the archaeological team.

“After authorized by Nexen, we conducted archaeological field survey in their own areas and discovered the relics of ancient human life. Under the strong support of the shareholders such as Nexen, we conducted excavation in this area and carried out archaeological training, achieved the archaeological research goal in the first phase.”

—Excerpt from the excavation report of the archaeological team







COSL took concrete actions to protect the ecological environment in the Arctic Circle

The North Pole is one of the last large undeveloped lands on the earth, the weak productivity and the simple biologic chain structure of the biosphere in the North Pole lead to a very weak ecosystem in this area with low self-restoration capabilities.

During the operation in the Arctic Circle, the operation team of COSL followed the green development concept and made great efforts to protect the fragile ecological environment.



 <p>During the voyage, environmental protection education was strengthened</p> <ul style="list-style-type: none"> • Mobilize the crew to learn garbage classification placement and disposal • Play the education video of environmental protection in the Arctic Circle 	 <p>During operation, the pollutants management was conducted strictly</p> <ul style="list-style-type: none"> • The ship garbage management is conducted in strict accordance with MARPOL and the requirements of the company • Carry out regular garbage management training for the crew • Assign a post for the garbage station management • Conduct monthly oil spill emergency exercise • Check for oil stains on the deck and clean them as necessary at set intervals 	 <p>During operation, influence on marine organism was minimized</p> <ul style="list-style-type: none"> • Set the special post to observe the marine mammal • Fire the air gun before operation to warn the marine animals to keep away from the operation area • Stop operation immediately when any animal is found to break into the operation area 	 <p>After the completion of operation</p> <ul style="list-style-type: none"> • Do not leave a piece of garbage! • Do not leave a drop of oil! • Do not hurt a marine life!
--	---	---	---

SOCIAL PROGRESS OVERSEAS

70.8%

70.8% of localization rate of overseas staff

Staff Development

CNOOC adheres to the concept of "Respect, Mutual Trust and win-win" to optimize the overseas employment system, actively promote the employee localization system, establish the promotion channels and encourage the local employees to grow with the enterprise; it respects the customs and religions of the employees from different regions and countries, strengthens the cultural communication, so that the Chinese and foreign employees can deepen their understanding to each other and build a harmonious and syncretic corporate culture. The number of existing overseas employees is 6,114, of the international employees is 47, of the overseas local employees is 4,331, 70.8% of localization rate of overseas staff.

CNOOC Southeast Asia effectively promoted the personnel localization

CNOOC Southeast Asia pays high attention to staff localization, gives priority to recruit local talents and execute the internationalized human resource strategy. In recent years, with the support of recruiting companies, it has attracted a large number of local professionals. The rate of staff localization is up to 96%. In the company employees can easily have access to occupational promotion. A lot of high-caliber Indonesian employees have held senior managerial posts like department manager, senior manager and vice president. The company established a perfect plan for training the local employees. Although the oil price was low in 2016, the company persisted in carrying out trainings for the local employees. In 2016, the number of training days reached 3,023, with a training spending of USD 817,000. Therefore, the company improved employees' professional knowledge and service ability. In order to show gratitude to employees for their contributions, the company holds Service Award (a prize presentation event) annually. At Service Award the company will grant a golden commemorative medal to the local employees who have served it constantly for 10, 15, 20, 25 or 30 years.



The Service Award site in 2016 of SES CNOOC Southeast Asia

Nexen was named Alberta Top 70 Employers List

In 2016, Nexen was once again to be named in the Alberta Top 70 Employers List for providing the best working environment to the employees and the contributions and promotion to career development and personal growth. The criteria for top 70 employers includes physical workplace, career health, training, skills development, financial and family benefits. Quinn Wilson, the Senior Vice President of global support service Nexen, said, "We are much honored to be rated as the best employer again. This award shows that the development plan and opportunities that we provide to our employees can still be helpful to create a positive and efficient working environment."

"For 3 years, I have worked with the colleagues from different cultures, in different languages and with different customs. We work and live together harmoniously like in a big family. I feel I grow up with the company every day. I am never afraid or worry about my work because I have a respected manager who can give me strong support in the professional area and a group of great, trust-worthy and reliable teammates as well as the encouragement of strengthening cooperation and the constant improving corporate culture."

—Era Irawan,

Administrative Director of (Asia-Pacific) Regional Center of CNOOC EnerTech



Outstanding overseas employees



Rina Martianingsih
Asia-Pacific Regional Center of CNOOC
EnerTech
Financial Director

Annual Special Contribution
Award in 2016



Yasser Mohammad
Iraq Branch of CNOOC Ltd.
International
Assistant Manager of security post

Good at the high-risk safety control
on-site, promoted to be Assistant
Security Manager from Security
Supervisor within two years



Pascal Olan / Madeleine Thomas
CNOOC Uganda
Senior Tax Consultant / Comprehensive
Support Staff

Excellent Employee Award of the
Chamber of Commerce of Uganda
Chinese-invested Enterprise



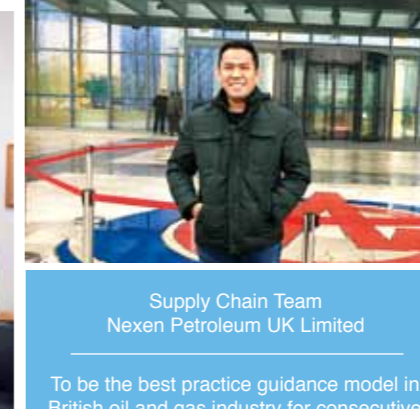
Daviq Chandra
The southern operating region of
CNOOC Southeast Asia SES
Offshore Director

Winning the title of "Excellent Director"
of CNOOC in 2016



Tom Harding / Bill MacFarlane
Nexen Canada
Senior Engineering Advisor

The co-authored paper on oil sand
extraction was awarded the Best
Paper Award of the 8th annual
World Heavy Oil Congress



Supply Chain Team
Nexen Petroleum UK Limited

To be the best practice guidance model in
British oil and gas industry for consecutive
years and have made outstanding
contributions to the cost reduction and
benefit increasing of the company



Juang Gahalta
COSL Operation Company in
Indonesia
Downhole Tools Engineer

To accomplish the maintenance work
of large sized tools excellently and
found the casing collapse in time to
avoid accident



Public Charity

CNOOC has established and maintained good communication and coordination mechanism not only with the local governments, but also with the communities where it operates and has conducted effective public welfare and charity activities for consecutive years to help the community residents improve the living and education standard and to create sustainable development opportunities together.

Nexen struggled to cope with the forest fire in Alberta

Nexen struggled to cope with the forest fire in Alberta



After Alberta announced to enter into the fire emergency state, Nexen shut off its operation area immediately on May 4, 2016 and dispatched vehicles to send 550 employees and their families to safe area and arranged shelters and daily supplies for them. The company opened a helpline in time to receive and respond to the help requests from the employees and their families at any time. The employees also organized voluntarily a fire brigade to assist the governmental fire department for the fire-fighting. After the fire broke out, the employees launched a donation activity and received more than 250 boxes of clothing and 100 computers. The company also donated USD 100,000 to the Red Cross.



Nexen employees voluntarily conducted a donation activity



1.CNOOC Southeast Asia constructed a maritime passage for the convenience of the fishermen to rest

CNOOC Southeast Asia constructed the embankment of the surrounding villages of the land metering station of BD project to protect the fish ponds and also constructed a maritime passage for the convenience of the fishermen to rest. The accumulative cost of the two projects is USD 22,000 and 2,000 community resident benefit from it.

2.CNOOC Southeast Asia donated medical facilities to the local hospital

In areas surrounding its operating regions, SES provided community residents with medical services. The company was appreciated by the community residents because it provided free physical examination and simple medical services as well as commonly used drugs in these islands and villages. More than 1,000 community resident benefited from these services with an investment of USD 25,000.



3.CNOOC Uganda carried out interactive meetings with local officials

On June 7-8, 2016, CNOOC Uganda organized interactive meetings with the former and new officials of the regional government where it operates to introduce the basic information of CNOOC and the operating oilfield, the commitment to the shareholders by the company, the interaction with the shareholders and the measures it has taken in implementing the enterprise social responsibilities.

4.CNOOC Uganda granted the "CNOOC Merit Scholarship"

On May 20, 2016, CNOOC Uganda held the awarding ceremony of CNOOC Merit Scholarship in the Hoima region offices. 90 outstanding students who got excellent results in the graduation exams of the primary school, junior high school and senior high school were awarded the Merit Scholarship Certificate and the scholarship co-signed by CNOOC and the government officials of Hoima Province.



5.CNOOC Congo (Brazzaville) renovated the local primary school

CNOOC Congo (Brazzaville) used the social project budget in the years of 2016 and 2017 (USD 400,000) for the reconstruction of the local primary school and presented school supplies to the pupils.



6.Nexen Nigeria employees visited SCCWI in Lagos

Nexen Nigeria employees came to the Street Child Care and Welfare Initiative (SCCWI) in Lagos to donate USD 25,000. This is the 6th consecutive year that Nexen makes donations to the organization.



7.CNOOC EnerTech Ecuador took an active part in the earthquake relief activity

When the 7.8 magnitude earthquake occurred in the coastal city of Ecuador, CNOOC EnerTech Ecuador prepared food and clothing actively to the earthquake victims. In addition, it also responded to the call by the local government to pay the special tax for earthquake relief in time.

8.Nexen Petroleum UK Limited was received by UK royal family member for positively supporting the poor teenagers

In 2016, Nexen Petroleum UK Limited was received by Prince Henry for positively supporting the local poor teenagers. It is also the long-term supporter of the two charitable organizations "Street Sport" and "Positive Destinations Initiatives" in Aberdeen City and has made a positive contribution to help the local poor teenagers integrate into society and to prevent their antisocial behavior.



"I know that this reconstruction project of the primary school is very difficult and full of problems. In the construction, CNOOC Congo (Brazzaville) actively cooperated with the construction party to solve the problems so that the project can be completed smoothly and successfully. On behalf of all the teachers and pupils, I would like to extend our sincere gratitude to you, and I also wish CNOOC can have new discoveries of oil and gas in Congo (Brazzaville) block! Wish you success!"

—Jean-Marc, Thysere Tchicaya Oil Minister in Congo (Brazzaville)



OUTLOOK ON 2017

In 2017, the world economy will continue to be in the profound adjustment and transformation; the international security situation will be even severer. Due to complication and variability of geopolitics and rapid accumulation of systematic financial risks, external uncertainties will rise. Domestic economy presents a development momentum of “being stable in moderate development and positive in stability”. Under the tremendous environmental pressure including adjustment, transformation, and upgrading of industrial structure and treatment of haze, etc., cleaner and lower-carbon products provided by the energy companies are in demand. Under such circumstances, we will get a clear understanding of severe challenges to turn pressure into motivation, actively adapt to the energy transformation, guarantee energy supply so as to manifest CNOOC’s social responsibilities, and make efforts to achieve a harmonious coexistence between CNOOC and the environment.

Concentration on the development of major business to provide high-quality energy. We will intensify the construction of the Company’s core competence by adhering to the development of the main business of oil and gas and consolidate the oil and gas reserve base, with the overall planning of the industrial structure of upstream, midstream, and downstream, strengthen scientific and technological innovation to develop the oil and gas resources more effectively, strongly promote the development of clean energies such as natural gas and CBM, etc., optimize the refining product structure, extend industrial chain, and perfect the service network so as to continuously supply energies, products and services with high quality for the society.

Strengthening safety awareness for stable and compliance operation. We will continue to regard safety production as the foundation of the sustainable development of the Company, make efforts to realize the first-class safety production management, strengthen the safety awareness to implement the Safety Code of Conduct, and promote the safety culture construction through system implementation. We will perfect the double prevention mechanism of risk grading control and potential hazard checking, implement the security governance deployment of the dangerous chemicals, practically complete the supervision over the rectification of potential hazards, implement the system of responsibility in safe production to strengthen supervision, inspection and accountability, and perfect the emergency management mechanism to minimize the impact of emergency events.

Strengthening environmental protection to achieve harmonious coexistence. We will continue to strengthen the whole process management of environmental protection to realize sustainable development between the Company and the environment. We will adhere to the philosophy of green operation, strengthen water resources management to integrate

environmental protection into daily production and operation activities, actively respond to Paris Agreement, speed up the research of making low carbon strategies, establish a carbon asset management system for the Company to promote energy conservation and emission reduction, protect marine ecological environment, and strive to the protection and the research on ecological diversity.

Undertaking social responsibilities and being enthusiastic about commonweal. We will be persistent in fulfilling our social responsibilities, try to achieve mutual development between the enterprise, its employees and the society, implement the concept of “people-oriented”, respect the legal rights and interests of the employees, care for their physical and mental health, and expand their career space. We will continue to carry out charity work including targeted poverty alleviation, special public welfare and launch voluntary services. We will actively integrate into communities and share our own resources with the society to feed back to the society with our own development.

Optimizing overseas businesses and promoting win-win cooperation. We will continue to carry out cooperation of overseas operation, further strengthen the constructions in core areas and the key bases of overseas business, become the refined oil and gas operation center, cultivate overseas upstream “project cluster”, and make efforts to achieve the deep integration with the global oil and gas industry to realize mutual benefits and achieve win-win result with overseas partners. We will stick to the compliance operation of overseas business, constantly improve overseas scientific and technological level, actively participate in and support the environmental protection activities in the countries and regions where our business are located to maintain sustainability of local ecosystems. We will implement the employee localization system and attach importance to business trainings and career development for overseas employees. We are committed to active integration into local communities and to promote local development by long-term systematic activities such as charitable donation, voluntary activities, etc.

In 2017, we will continue to insist on the philosophy of “safe and efficient operations, low carbon and green growth, people-oriented, innovation, compassion and transparency”, fulfill CNOOC’s social responsibilities by “enhancing economic growth, strengthening environmental protection and promoting social progress”, make our efforts to provide more high quality and clean energy, expand service network, extend the industrial value chain, upgrade sci-tech innovations, strengthen environmental protection, fulfill social responsibilities, deeply integrate into global economy, and untiringly struggle for “Energy for All”.

THIRD-PARTY ASSESSMENT

Rating Report on China National Offshore Oil Corp. Sustainability Report 2016



Upon the request of China National Offshore Oil Corporation (hereinafter "CNOOC"), Chinese Expert Committee on CSR Report Rating invited experts to form a rating team. The rating team rated CNOOC Sustainability Report 2016 as follows (hereinafter "report"):

1. Rating criteria

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 3.0) and Rating Standard on Corporate Social Responsibility Reporting for Chinese Enterprises (2014).

2. Rating process

- (1) The process assessment team interviewed members from the social responsibility department and viewed the relevant materials involving the preparation of the report on site.
- (2) The rating team evaluates the management process and the information disclosed in the report and draws up the rating report.
- (3) The Vice chairman of the Chinese Expert Committee on CSR Report Rating and the leader of the expert rating team sign the rating report together.

3. Rating results

Process Management (★★★★★)

Establishing the organization structure of the report complied with the leading group, office and relevant departments & affiliated unit, the vice president is responsible for guidance and viewing of the report. The editorial team identifies stakeholders and consults their advices by meetings, questionnaires and interviews. The substantial issues are defined according to material issues of the corporation, relevant state policies and industry benchmarking analysis and the stakeholders' opinions. It is planned to hold the special conference, and the report would be presented in printed papers, electronic version, Chinese and English version as well as H5 version. Thus, the report progress management is super excellent.

Materiality (★★★★★)

The report systematically discloses key performance issues on its industries such as "implement the macro policy", "improve the quality management", "ensure energy supply", "intensifying safe operation", "focusing on the technological innovation", "tackling climate change", "biodiversity conservation" etc. with detailed description. The report has super excellent materiality.

Completeness (★★★★☆)

The report systematically discloses key information on "promoting economic growth", "enhancing environmental protection", "driving social progress", "CSR report overseas" etc. With 85.2% of core indicators disclosed on its industries. The report has leading completeness.

Balance (★★★★☆)

This report discloses negative information on "Direct contractor casualties", "Employee casualties", "Recordable injury events(case)", "Employee turnover rate", "frequency of occupational disease" etc. The report has leading balance.

Comparability (★★★★★)

This report discloses data on 37 key performance indicators of at least three consecutive years, including "LNG Imports", "Crude oil production", "R & D Investments", "energy conservation and emission reduction investments", "Energy consumption per RMB 10,000 turnover", "Charitable donation", and compared "Crude oil production", "Yield of Natural Gas", "Ethylene production" etc. to national data. The report has super excellence comparability.

Readability (★★★★★)

This report is themes on "Our Quality Energy for Your Blue Sea and Sky", focusing on the three issues of economy, environment and society, with a clear framework and logic, proper length. The cover of the report is designed with the main business of CNOOC, highlighting the industrial characteristics. The report contains abundance cases used to describe the social responsibility practices and the professional vocabulary has been explained. All of above makes the report super leading readable.

Creativity (★★★★☆)

The report sets five major topics: "Spirit of Craftsmanship Created Blue Legend", "Ecological Protection Contribute to a Beautiful China", "Manifesting CNOOC's Responsibilities through Targeted Poverty Alleviation", "Combining 'Blue Force' with Charity", "The Global Presence of CNOOC's Products and Services". CNOOC establishes the regulation of the sustainability report, promoting the standardization of the report. So the report has leading creativity.

Overall Rating (★★★★★)

Through evaluation and deliberations, the rating team agreed to rate China National Offshore Oil Corporation Sustainability Report 2016 as super excellent by giving five-star rating to it.

4. Suggested improvements

Increase report balance by disclosing more inadequacies and negative data.

Rating team

Team Leader:

Cheng Duosheng, Director of Corporation Innovation Department of China Enterprise Confederation

Team Members:

Wei Xiuli, Associate professor of School of Economics and Management of North China University of Technology

Zhang En, Wang Zhimin, Process Evaluators of Center



Wei Zichuan
Vice Chairman of the Chinese Expert
Committee on CSR Report Rating

Cheng Duosheng
Team leader of the expert
rating team

GLOSSARY OF TERMS

Drilling Platform

Offshore drilling platforms are marine structures used mainly for drilling exploratory wells. Such platforms, generally divided into mobile and fixed platforms, are essential for offshore oil and gas exploration and development operations and house drilling, power, communications, navigation and other equipment, as well as lifesaving and accommodation facilities.

Recovery Ratio

Recovery ratio refers to the percentage of geological oil reserves accounted for by the amount of oil that can be extracted from oil reservoirs. This is a key criterion in evaluating the level of development of an oil field.

Reserve Replacement Ratio

As an index to reflect reserve replacement capacity, reserve replacement ratio is a ratio between the annual newly proven reserve and the reserve that has been mined and consumed in the same year.

Heavy Oil

Heavy oil is highly viscous crude oil that contains a relatively high level of asphaltenes and resins. This usually refers to those with ground densities greater than 0.943 and underground viscosities greater than 50 centipoises.

Oil Reservoir

This is the smallest unit for the storage of oil. Oil reservoir layer or oil layer in short refers to the porous strata for the storage of oil. Not every part of an oil layer will contain oil. Oil reservoir refers to those independent oil-containing areas within an oil layer.

Adjustment Well

Adjustment wells refer to scattered or clustered wells drilled, in addition to existing well clusters, for improving the development of oil fields.

Well Logging

Well logging usually refers to geophysical well loggings, in which different forms of well loggers made based on electrical, magnetic, acoustic, thermal, nuclear and other physical principles, enter wells through the use of well logging cables, to allow the ground electrical measuring instruments to record continuously along the well bore the various parameters that change with changes in depth. Underground rock formations, including oil, gas, water, and coal layers and metal deposits, can then be identified through curves representing these parameters.

Oil Spill Response

Oil spill response is the formulation of plans and adoption of measures to control and prevent oil spills and reduce pollution damage, based on the environment and resources in the potential spill sources and waters within the designated sea areas. This sees common use in offshore oil exploration and development activities.

LNG

Liquefied natural gas or LNG in short refers to the liquid that forms when natural gas extracted from gas fields cools to a low temperature under high pressure after undergoing the fluid and acid removal, drying and distillation processes. LNG is predominantly methane and is colourless, odourless, non-toxic and non-corrosive.

Recordable Production Safety Events

According to the OSHA standards of the United States, recordable production safety events include medical treatment, work restrictions, lost time and deaths.

Occupational Disease

This refers to diseases that develop as a result of exposure to occupational hazards at work.

QHSE

The abbreviation QHSE stands for Quality, Health, Safety and Environmental. Established based on the principles of compatibility of similarities and complementarity of differences, and on the basis of the ISO 9001 and ISO 14001 standards, GB/T 28000 family of standards and SY/T 6276 Petroleum and Natural Gas Industries-Health, Safety and Environmental Management System,

the QHSE management framework usually refers to the framework that directs and controls the quality, health, safety and environmental aspects of an organisation.

COD

Chemical oxygen demand or COD in short refers to the amount of oxidant consumed when treating water samples using a certain amount of strong oxidants under certain conditions. The usual use of COD is to determine the extent of contamination of water bodies by reducing substances.

Coalbed Methane

Coalbed methane, which is a coal-associated mineral resource and considered an unconventional form of natural gas, refers to a kind of hydrocarbon gas (predominantly methane) found trapped within coal beds, mainly adsorbed to the surface of coal matrix particles, and partly dispersed in the porosity of coal or dissolved in the coalbed water.

Shale Gas

Shale gas specifically refers to an unconventional form of natural gas found trapped within shale formations.

Deepwater Semi-Submersible Drilling Platform

Deepwater semi-submersible drilling platform refers to a semi-submersible drilling platform that can operate in deep waters. Semi-submersible drilling platform, also known as column-stabilised drilling platform, is a kind of mobile drilling platform with small waterplane area and a large part of the floating structure submerged under water.

CCUS

CCUS (Carbon Capture, Utilization and Storage) namely the carbon capture, utilization and storage. CCUS technique is the new developmental trend of CCS (Carbon Capture and Storage), to-wit, purifying the carbon dioxide discharged during production and then putting into the new production process for recycling utilization instead of simple storage.

CNOOC

China National Offshore Oil Corporation Limited (HKEx: 00883, NYSE: CEO, Toronto: CNU, www.cnooc.com.cn).

COSL

China Oilfield Services Limited (SSE: 601808, HKEx: 02883, www.cosl.com.cn).

CNOOC Engineering

CNOOC Offshore Oil Engineering Co., Ltd. (SSE: 600583, www.cnoocengineering.com).

China BlueChemical

China BlueChemical Ltd. (HKEx: 03983, www.chinabluechem.com.cn).

CNOOC Gas and Power Group

CNOOC Gas and Power Group Limited (www.cnoocgas.com).

International Company

CNOOC International Co., Ltd.

CNOOC EnerTech

CNOOC Energy Technology & Services Limited.

CNOOC Oil & Gas Utilization

CNOOC Oil & Gas Development & Utilization Corporation.

Shandong Haihua

Shandong Haihua Group Co., Ltd. (www.haihua.com.cn).

Daxie Petrochemical

CNOOC Ningbo Daxie Petrochemical Limited.

CNOOC and Shell Petrochemicals Company Limited (CSPC)

CNOOC and Shell Petrochemicals Company Limited (CSPC).

INDEX OF REPORTING INDICATORS

CONTENTS	CASS-CSR	GRI	IPIECA/API
COVER			
INSIDE FRONT COVER	P1.1/P1.2/P1.3/P1.4/P1.5/G2.4/G2.5/G5.4/M1.1/M1.2/M1.3/M2.7	3/17/18/28/30/31/34/38/42/43/44/45/46/47/48/49/50	
CNOOC in Numbers	P4.7/P5.1/M1.4/M1.5/M1.6/S1.5/S4.13/E2.21/E2.24/E2.26	9/EC1/EN27	E2/SE4
CHAIRMAN'S LETTER	P3.1/P3.2/P4.6/G1.2	1/2/15/16	
PRESIDENT'S LETTER	P3.1/P3.2	1/2	
CONTENTS	P2.2/G1.1/G1.3/G5.3/	19/27/56	
SUSTAINABILITY MANAGEMENT			
About Us	P4.1/P4.2/P5.3/G1.1/G1.2/G1.4/G2.1/G2.3/G4.1/G4.2/G6.1/M1.3/S1.1/S1.2/S1.3	3/4/5/6/7/8/13/15/16/35/56/DMA/S04	
Key Performance Indicators	P5.2/G4.1/M1.4/M1.5/M1.6/M2.17/M2.18/S2.1/S2.4/S2.8/S2.9/S2.11/S2.20/S2.24/S3.6/S3.7/S4.7/S4.13/E2.4	9/10/EC1/EC3/EN5/EN6/EN21/EN27/EN31/LA1/LA6/LA9	E2/E4/E7/SE4
Stakeholders	P2.3/G2.2/G5.1/G5.4/G5.5/G5.6/M1.3	24/26	
PROMOTING ECONOMIC GROWTH			
Ensuring Energy Supply	P4.2/P4.3/P4.4/P4.7/G3.2/M2.1/M2.2/M2.3/M2.4/M2.9/M2.11/M2.14/M2.15/M2.16/M3.1/M3.2/M3.3/M3.7/M3.9/M3.10/M3.11/M3.12/S3.8/E3.1/E3.7	9/12/13/DMA/EC32/EC33/EN19/EN32/LA14/LA15/HR10/HR11/S09/S10	SE5/SE7/SE9/SE12
Emphasizing Sci-tech Innovation	M2.16/M2.19/M2.21/E2.5	DMA	E3
Intensifying Safe Operation	P5.1/G6.4/M2.6/S3.1/S3.2/S3.3/S3.4/S3.8/S3.9/S3.10/S3.11/E2.7/E2.8/E2.11/E2.32	14/DMA/EC2	HS4/HS5
Improving Quality Management	M2.6/ M2.7/E3.3	DMA/PR3	HS4
Special Topic: "Spirit of Craftsmanship" Created Blue Legend			
ENHANCING ENVIRONMENTAL PROTECTION			
Green Operation	P5.1/E1.1/E1.2/E1.4/E1.10/E2.28	16/DMA/S01	SE5
Tackling Climate Change	P5.1/S1.6/E3.7/E4.1/E4.2/E4.3	DMA/EC2	E1
Water Resource Management	P5.1/E2.18/E2.34/E2.35/E2.36	DMA/EN10/EN22/EN27	E6
Energy Conservation and Emission Reduction	P5.1/S1.6/E1.6/E2.1/E2.2/E2.3/E2.14/E2.15/E2.16/E2.21/E2.22/E2.23/E2.24/E2.25/E2.26/E2.27/E2.30/E3.7	22/DMA/EN3/EN6/EN7/EN19/EN21/EN23/EN27/EN31	E2/E4/E7

Continued

CONTENTS	CASS-CSR	GRI	IPIECA/API
Biodiversity Conservation	P5.1/E5.1/E5.2/E5.3/E5.5	DMA/EN12/EN13	E5/SE5
Special Topic: Ecological Protection Contributes to a Beautiful China			
DRIVING SOCIAL PROGRESS			
Employee Development	P4.5/P5.1/S1.6/S1.7/S1.8/S2.1/S2.2/S2.3/S2.4/S2.5/S2.6/S2.8/S2.9/S2.11/S2.14/S2.15/S2.16/S2.18/S2.19/S2.20/S2.22/S2.23/S2.24/S2.25/S2.26/S2.27/S2.29	9/10/DMA/EC3/EC5/LA1/LA6/LA9/LA10/LA12/LA13/LA16/HR2/HR3/HR5/HR6	HS1/HS2/HS3/SE5/SE6/SE8/SE15/SE16/SE17/SE18
Humanitarian Engagement	P5.1/S4.10/S4.11	DMA	SE4
Voluntary Service	P5.1/P5.3/S4.14/S4.15	DMA	
Special Topic: Manifesting CNOOC's Responsibilities through Targeted Poverty Alleviation	S4.10/S4.11	DMA/EC7/EC8	SE4
Special Topic: Combining "Blue Force" with Charity			
Integration into the Community	S4.1/S4.2/S4.3/S4.4	DMA	SE1/SE2/SE3/SE5
CSR REPORT OVERSEAS			
Special Topic: The Global Presence of CNOOC's Products and Services	P4.4	4/6/8	
Economic Growth Overseas	M2.2/M2.5/M2.16/S1.1/S3.1/S3.2/S3.3	DMA/EC1	SE11/SE12/SE13
Environmental Protection Overseas	E1.1/E1.3/E1.6/E2.8/E2.28/E5.1/E5.2/E5.3	DMA/EN12/EN13	
Social Progress Overseas	S2.18/S4.6/S4.7/S4.12	DMA/EC7/EC8	HS1/HS2/HS3/SE1/SE2/SE3/SE4/SE5/SE6/SE7/SE8/SE15/SE16/SE17/SE18
OUTLOOK ON 2017			
ANNEX			
Third-party Assessment	A2		
Glossary of Terms			
Index of Reporting Indicators	A3		
Feedback form	P1.5/A4	31	

FEEDBACK FORM

In order to improve the social responsibility engagement of CNOOC on an on-going basis, we would like to hear your thoughts, which will form an important basis for us to do better. We hope that you could spare some time to give us your valuable feedback on the report and our work.

Your Information:

Name: _____ Company: _____

Tel: _____ E-mail: _____

Your Feedback:

1. What is your overall opinion of the report?

Very good Quite good Average Quite poor Very poor

2. What do you think of the information disclosed in the report?

Very abundant Quite abundant Fair Quite little Very little

3. What do you think of the quality of the information disclosed in the report?

Very high Quite high Average Quite low Very low

4. What do you think of the report structure?

Very reasonable Quite reasonable Fair Quite poor Very poor

5. What do you think of the design of the report layout?

Very reasonable Quite reasonable Fair Quite poor Very poor

6. If you have any opinion or suggestion on the social responsibility engagement of CNOOC or the production and dissemination of our sustainability report, please feel free to let us know:

CONTACT US:

CNOOC Office for Policy Research

Postal Address: CNOOC Building, No. 25 Chaoyangmenbei Dajie, Dongcheng District, Beijing 100010, P.R. China

Tel: 86 (10) 84523487

Fax: 86 (10) 64602830

E-mail: report@cnooc.com.cn



BV-COC-010509

CNOOC

CNOOC Office for Policy Research

Address: CNOOC Building, No. 25 Chaoyangmenbei Dajie, Dongcheng District, Beijing 100010, P.R. China

E-mail: report@cnooc.com.cn

Website: www.cnooc.com.cn