



2018

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ENVIRONMENTAL, SOCIAL  
AND GOVERNANCE REPORT  
ENERGIZE · HARMONIZE · REALIZE



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# MATERIAL TOPICS

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## ABOUT US

PetroChina Company Limited (hereinafter referred to as "the Company", "we" or "us") is a joint stock limited company incorporated on November 5, 1999, upon the restructuring of China National Petroleum Corporation (CNPC). PetroChina was listed on the NYSE (ADS code: PTR) and the HKEX (stock code: 857) respectively in April 2000, and on the Shanghai Stock Exchange (stock code: 601857) in November 2007.

PetroChina is one of the major oil and gas producers and distributors in China, and also a significant player in the global oil and gas industry. It engages in a wide range of activities related to oil and natural gas and provides sustainable energy and oil products for economic and social development. We are also committed to building a harmonious relationship between energy, the environment and the society.

### Our Mission

Energize, Harmonize, Realize

### Our Vision

To be a top-class international energy company

### Business Strategy

Resources, Markets, Internationalization, Innovation

### Guidelines of Development

Steady Development

### Our Values

Integrity, Innovation, Safety, Distinction

Xinhuanet  
Special Contribution  
Award for Social  
Responsibility

FORTUNE  
"FORTUNE China  
Top 500"

Brand Finance  
"Top 50 Most Valuable  
Oil & Gas Brands"

Shanghai Stock  
Exchange  
"The Information  
Disclosure Appraisal  
for Listed Companies  
2018": A

China Securities Golden  
Bauhinia Award  
"Listed Company with the  
Best Investor Relations  
Management";  
"Best Board Secretary of the  
Listed Company"

Corporate Governance  
Asia  
Best investor relations  
company (China);  
Best CFO

Institutional Investor  
"Most Honored Companies"  
(Oil & Gas Industry);  
"Best Investor Relations  
Company";  
"ESG/SRI Indexes";  
Best Analyst Days

IR Magazine  
Best IR (energy);  
Best investor event (large  
cap)

## BUSINESS STRUCTURE

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### Upstream Business

Exploration, development and production of crude oil and natural gas.



### Mid-Downstream Business

Refining, transportation, storage and sales of crude oil and oil products, as well as production and marketing of basic, derivative and other chemical products; and transportation and marketing of natural gas.



### International Business

We are engaged in oil and gas exploration and production in more than 20 countries and have trade relations with more than 80 countries.



### Oil and Gas Exploration, Development and Production

PetroChina is at the forefront in domestic oil and gas exploration and development. We operate in a number of major oil and gas producing regions such as Daqing, Changqing, Xinjiang, Liaohe, Tarim and Sichuan. In 2018, we produced 733.7 million barrels of crude oil, 3,324.7 billion cubic feet of saleable natural gas, and 1,287.9 million barrels of oil and gas equivalent domestically.

### Refining and Sales of Crude Oil and Oil Products

We own ten ten-million-ton-level refining bases. In 2018 we processed 1,122.8 million barrels of crude oil and produced 105.342 million tons of refined oil. We are operating more than 20,000 service (gas) stations, covering 31 provinces (municipalities and autonomous regions) and the Hong Kong SAR of China, and undertook the supply of about 32.4% of China's oil products.

### Production, Transportation and Sales of Petrochemical Products

The Company is engaged in producing six categories of chemical products: synthetic resin, synthetic fiber and raw materials of synthetic fiber, synthetic rubber, urea, organic and inorganic compounds with thousands of trademarked products. Our production capabilities of products such as ethylene, synthetic resin and synthetic rubber are ranked among the best in China. In 2018, we produced 23.75 million tons of chemical products and 5.569 million tons of ethylene.

### Transportation of Natural Gas, Crude Oil and Refined Oil, and Distribution of Natural Gas

PetroChina is mainly responsible for transportation and marketing of natural gas, and storage and transportation of crude oil and refined oil. The Company operated nearly 83,527 km of pipelines in China, covering 30 provinces (municipalities and autonomous regions) and the Hong Kong SAR of China.

### International Oil and Gas Cooperation

Currently, we have established five international oil and gas cooperation zones in Central Asia, Middle East, Africa, the Americas and the Asia-Pacific, and three oil and gas operation centers in Asia, Europe and the Americas. The expansion and growth of our international oil and gas cooperation has been substantial in terms of size and scope, with operational quality improving greatly. In 2018, our overseas oil and gas equivalent production reached 203.8 million barrels.

## MESSAGE FROM THE CHAIRMAN



“ PetroChina continues to carry out the mission of ‘Caring for Energy, Caring for You’. To build a top-class international energy company, we will promote steady and quality-based development, cooperating with all stakeholders to create and share a bright future based on sustainable development. ”

Thank you for reading this report and for your support and attention to PetroChina over time.

In 2018, in the face of a complex and ever-changing business environment, PetroChina adhered to the concept of business growth stressing innovation, coordination, environmental friendliness, openness and benefit sharing, and the mission to deliver clean, reliable and affordable high-quality energy. We followed a steady development path, to ensure high-quality development and implement the strategy with respect to resources, the market, internationalization and innovation. Thanks to these efforts, the Company achieved a better-than-expected performance and further improved our value-creating capability.

We focused on increasing the proportion of low-carbon energy and clean production, making outstanding contributions to environmentally friendly developments. Development of clean energy is a major contributor to a better energy mix, guaranteeing energy security and promoting an environmentally friendly culture. PetroChina promoted low-carbon development by seizing the opportunities brought about by the energy revolution. Bearing in mind that “Clean Waters and Lush Mountains are Invaluable Assets”, we aim for cleaner production and more efficient use of energy resources, and continuously highlight carbon emission management. We enhanced restructuring of our oil and gas business, increased the proportion of shale oil and gas and tight gas, and coordinated business development in respect of new energies, thereby further optimizing the Company’s asset portfolio. In 2018, the proportion of natural gas production in our overall domestic oil and gas production rose to 43%. The Company maintained double-digit growth in its natural gas sales volume, satisfying 70% of requirements in the local market and benefiting millions of households. We completed the upgrading of our gasoline and diesel products in line with National VI Standard. PetroChina has thereby made further contributions to the UN’s “Sustainable Energy for All” initiative and the mission to make China a beautiful country boasting a blue sky, green land and clean water.

We stressed compliance with laws and improved corporate governance, laying a solid foundation for sustainable development. We improved our corporate governance and internal control systems, strengthened legal education and mandated compliance training for everyone, ensuring our production and operation activities remain compliant with all applicable laws. To effectively control environmental, safety and social risks, we improved governance regarding sustainable development and made the concept of

sustainable development a normal part of our business operations. We intensified HSE system audits, and carried out a comprehensive audit on our contractors for the first time, enhancing the coverage, accuracy and effectiveness of such an audit. We constantly strengthened communication with stakeholders and solicited their participation, thereby enhancing the transparency of our business operations. Thanks to these efforts, we have consolidated a positive corporate image, gained more favorable comments from all sectors of society and hence increased the overall brand value of PetroChina.

**We stress innovation as the new engine of our development, to achieving higher quality results.** Guided by the principle of "business being the paramount concern, self-initiated innovation, augmented incentives, openness and sharing", we innovated in technology, management and business modelling, promoted in-depth integration of industrialization and use of information, and accelerated capability enhancement in terms of self-initiated innovation and establishment of technical standards for the industry, making innovation the primary driving force for business development. Unremitting efforts were made in scientific and technological innovation, increasing pace in building up a powerful technology innovation system with distinctive characteristics and assembling essential elements, pooling superb resources for major scientific and technological projects initiated at the national level or that of PetroChina and speeding up technological upgrading and application of the outcome of scientific and technological research in our existing business activities. In 2018, the Company made 12 milestone achievements in major scientific and technological research. Exploration Theory & Technology for Conglomerate Reservoir in Sag Areas and Discovery of the Super-Giant Mahu Oilfield was awarded National Science and Technology Progress Award (1<sup>st</sup> class). We were innovative in business management and improvement of internal systems, making digital-oriented innovation in business management and business modelling, and quickening the pace in building up a well-integrated data platform.

**We insist on openness and cooperation, thorough implementation of the Belt and Road Initiative, and growing the international cooperative oil and gas community of shared interests.** PetroChina is committed to being an excellent corporate citizen and a preferred partner for other players in the industry worldwide, in order to make a concurrent response to major changes in the energy industry and build a community of shared interests in oil and gas cooperation featuring openness and mutual benefits. In 2018, as a member of OGCI, we were involved in the OGCI's initiatives, strengthened the research, demonstration and promotion of low-carbon technologies and business modelling in China, and explored the development opportunities for transition to low-carbon energies in the petroleum industry. We shared opportunities under the Belt and Road Initiative for oil and gas cooperation with our partners, and executed a number of strategic agreements and major cooperation projects. In addition, we made great efforts to build the "Silk Road on Ice" and were highly recognized and commended by the host countries. This has helped us build a new image and set a new example for international oil and gas cooperation.

**We are devoted to improving people's livelihoods, serving social undertakings and remained steadfast in fulfilling our social responsibility as a corporate citizen.** Implementing a people-centered development concept, we share our achievements with our employees, the public and our partners. To this end, we enable employees to participate in decision-making and business management, thereby helping their career development, and putting in place a framework to increase employees' income in proportion to their productivity. We improved communication with local governments on a regular basis, and implemented strategic cooperation agreements and projects to boost local economic and social development. We responded positively to the initiatives of the UN's 2030 Agenda for Sustainable Development by exploiting our strengths in industry, know-how and talent and delivered excellent results in targeted poverty alleviation projects, in order to contribute to the fight against poverty. Throughout the year, we implemented over 40 poverty alleviation projects, benefiting more than 80,000 people. PetroChina was also widely recognized by host countries for its efforts overseas to become an excellent corporate citizen. In 2018, the presidents of Kazakhstan and Uzbekistan awarded the "Order of Friendship of the Republic of Kazakhstan" and the "Dustlik (Friendship) Medal of the Republic of Uzbekistan" to me respectively in recognition of PetroChina's contributions to the economic and social development of the two countries. We all feel deeply proud and are greatly inspired.

The world is undergoing drastic changes in its global governance system, in tandem with readjustments to its energy supply and demand pattern and faster transition in sources of energy, creating more complicated and arduous challenges to us. As a major player in the global energy industry, PetroChina continues to carry out the mission of "Caring for Energy, Caring for You". To build a top-class international energy company, we will promote steady and quality-based development, cooperating with all stakeholders to create and share a bright future based on sustainable development.



Wang Yilin

Chairman of the Board

# CORPORATE GOVERNANCE

At PetroChina, we always advocate the modern concept of corporate governance characterized by the supremacy of law, reciprocity of power and responsibility, procedural compliance, credibility and integrity, justice and impartiality. Taking rule of law as the principle, we enhanced our capability of business management. Taking compliance as a key issue, we set a code of behavior for both the company and employees. Taking the *Articles of Association* as the guideline, we improved our corporate governance system and the scheme of business management, focusing on formulating systematic, scientific and effective internal rules and regulations. Disciplined by such rules and regulations, we strive to achieve the modernization and internationalization of the corporate governance system and control system. We are set to make relentless efforts to test the rationality and practicality of enhancing our corporate governance and improve the long-term mechanism which aims at running our business in compliance with the law.



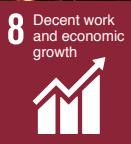
## SUSTAINABILITY MANAGEMENT

To promote sustainable development, we must deliver clean, reliable and affordable energy to the public in a responsible, sustainable and ethical manner, abide by the laws and regulations, respect human rights, protect the environment and make contributions to the geographic areas with our presence. We embrace the *United Nations Universal Declaration of Human Rights (UDHR)* and a number of codes of voluntary compliance, including but not limited to the United Nations Global Compact (UNG) and the United Nations Sustainable Development Goals (SDGs) 2030. The Company has set up an effective system for sustainability management and created a governance structure for that purpose featuring clear layers of management and division of work. We guide and manage the efforts in respect of sustainable development through work of the Shareholders' General Meetings, the Board of Directors and its special committees, the Supervisory Committee, and the management team headed by the President. The philosophy of sustainability is deeply integrated in the entire process of our business operation for effective control of environmental, safety and social risks.

We stress "high-quality development", uphold business ethics, make every effort to develop clean and low-carbon energy, and pay close attention to environmental protection and care for employees, in order to make greater contributions to society and keep enhancing our capacity for sustainable development. We link compensation of the senior management and employees to their performance in respect of sustainable development, and exercise a veto against any breach of environmental regulations by persons-in-charge. In 2018, we pushed ahead with Company-wide performance appraisal, taking points away from the performance scorecard of subsidiaries having HSE accidents and quality problems.



#### SDGs



8 Decent work  
and economic  
growth



10 Reduced  
inequalities



12 Responsible  
consumption  
and production



16 Peace, justice  
and strong  
institutions



17 Partnerships  
for the goals

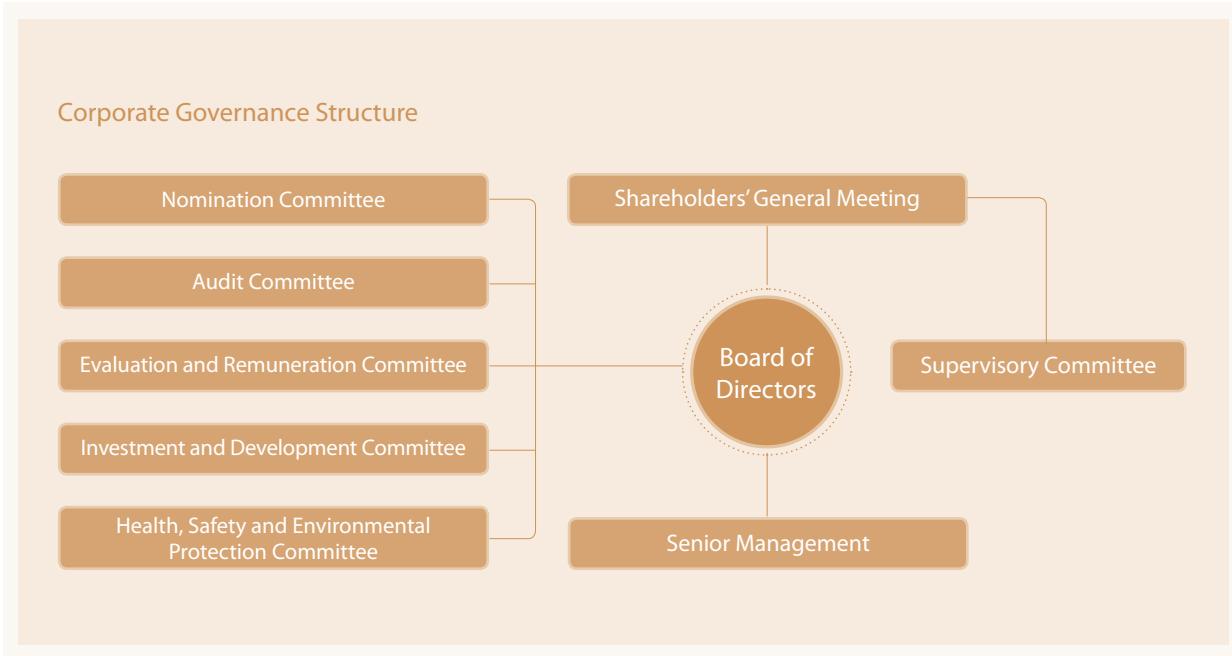
## GOVERNANCE FRAMEWORK

Ever since its incorporation, PetroChina has set in place a corporate governance framework in compliance with regulatory requirements and international practice, defining the respective authority and responsibilities of the Shareholders' General Meeting, the Board of Directors and its special committees, the Supervisory Committee, and senior management headed by the President. Such a management structure proves coordination-oriented and highly effective. The Company's internal management has been increasingly standardized and our business management improves continuously.

We strive to optimize the legitimate decision-making mechanism in keeping with laws and regulatory requirements, enhancing assessment of such a mechanism, setting up and improving a system that traces back the person(s) held responsible for decisions made and holds decision-makers accountable for life. We keep on improving monitoring and checking exercising of power, and following the principle that responsibility shall be commensurate with authority. We clearly delineated the limits of authority at different levels and set out a list of duties and powers. We made well-coordinated use of internal resources monitoring legal affairs, internal control, auditing and internal inspection. We reinforced self-monitoring by means of double checking by dedicated departments and cross checking between superior and subordinate departments. We submit ourselves voluntarily to monitoring by the public to procure well-grounded decision making, appropriate authorization, well-controlled exercise of power and disciplinary action against any abuse of power.

The Company is committed to strengthening Party building, and incorporates Party leadership into all aspects of corporate governance. This gives full play to the leading role of the Party organization.

The governance system of the Company meets the requirement of the *Company Law of the People's Republic of China*, the *Articles of Association of PetroChina*, the relevant provisions of the China Securities Regulatory Commission, and the regulatory requirements of stock exchanges where the Company is listed.



## Shareholders and Shareholders' General Meeting

The Shareholders' General Meeting is the highest authority in the Company, exercising functions and powers in accordance with the law. PetroChina's Shareholders' General Meeting is held annually to ensure that all shareholders enjoy equal status and exercise their rights effectively. In order to ensure fair and reasonable connected transactions, in passing resolutions concerning connected transactions, CNPC, being a connected person of the Company, will abstain from voting.

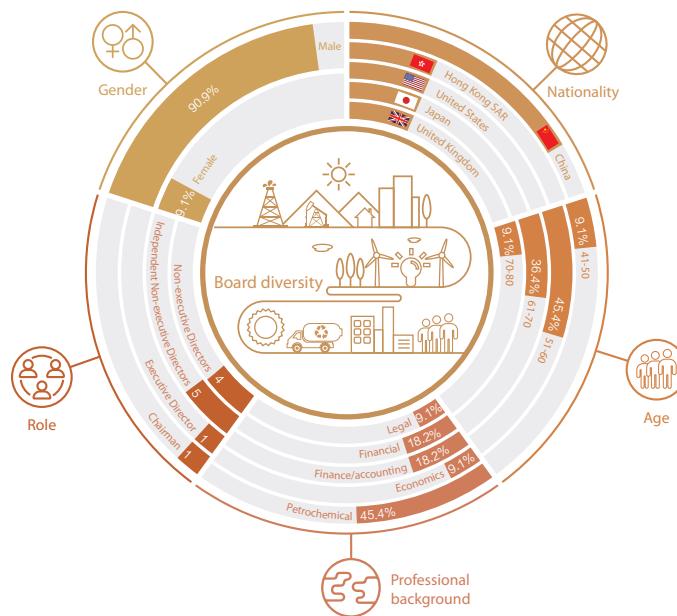
The shareholding structure of the Company is detailed in our annual report for 2018.

On June 5, 2018, PetroChina held the Shareholders' General Meeting for 2017. At the meeting, the annual report of the Board of Directors, the annual report of the Supervisory Committee, the annual financial report and the annual profit distribution plan for 2017 as well as some other proposals were presented. For details, please refer to the announcement on our website.

## Directors, Board of Directors and Board Special Committees

The directors are elected by the Shareholders' General Meeting and accountable to the shareholders of the Company. The term of office is three years, renewable upon re-election and re-appointment. Directors act in the interest of shareholders as a whole, strictly adhere to the principle of diligence, integrity and pragmatism, and conscientiously perform their duties. As of the end of 2018, the Company had 11 directors, including five independent directors.

The Company formulated the *Diversification Policy of the Composition of the Board of Directors*, so that Board members are engaged based on the actual situation of the Company, and its own operational model and work requirements, while also taking into account their nationality, gender, age, cultural and educational background and professional experience. This can help improve the decision-making capability of the Company. For details of Board members, please refer to our website and our annual report for 2018.



For details of the attendance by independent directors at the Board meetings, please refer to our annual report for 2018.

A total of seven Board meetings were held in 2018, as detailed in our website and our annual report for 2018.

The Board sets up a Nomination Committee, Audit Committee, Evaluation and Remuneration Committee, Investment and Development Committee, and Health, Safety and Environmental Protection Committee, all of which provide support to the Board in its decision-making (The Board composition, division of roles and the work of each of such committees are detailed in the annual report of the Company for 2018). We never cease formulating, improving and effectively implementing the work rules and procedures of the Board of Directors and its special committees.

Our independent directors perform their duties with diligence, loyalty and independence. With a proper understanding of the business status, financial performance and major projects of the Company, they effectively exercise their special powers for approving major connected transactions, and provide advice for the operation of the Board and the business development of the Company by making use of their expertise in their respective field and experience.

In 2018, our independent directors:

- Made on-site visits to Southwest Oil and Gas Field Shale Gas Project, Yunnan Petrochemical Project, PetroChina's subsidiaries in Hong Kong, PetroChina International (Singapore) Pte. Ltd., and PetroChina International Investment (Australia) Pty Ltd;
- Held a number of business discussion meetings with Board members and the senior management of the Company;
- Provided comments and suggestions on the rules on guarantee management proposal and interim report of the Company.

#### Independent and Standardized Functioning of Audit Committee

The Audit Committee of the Company is composed of one non-executive director and two independent non-executive directors. The Audit Committee performs its duties and functions in a standardized manner in accordance with the relevant regulations and requirements of the *Guidelines on the Conduct of Business by Audit Committees of Listed Companies* issued by Shanghai Stock Exchange, the *Articles of Association and Rules of Procedure for the Audit Committee of the Board of Directors of PetroChina*. The Audit Committee primarily exercises the following duties: reviewing and monitoring the financial reporting process and internal control system of the Group, and providing advice to the Board of Directors.

The auditors of the Company shall be well-informed of relevant laws and regulations as well as the internal rules of the Company, well-equipped with the knowledge and skills necessary for auditing. They shall be participating in post-school education for at least 80 class hours every year. The audit department reports to the Audit Committee of the Board of Directors of the Company on its work four times a year.

**2**

The supervisors made two business inspections, which helped improve the management of the Company

## Supervisors and Supervisory Committee

The term of office of our supervisors is three years, renewable upon re-election and re-appointment. No supervisor may concurrently hold the position of a director, President, Senior Vice President, Vice President or Chief Financial Officer. In accordance with the *Company Law of the People's Republic of China* and the *Articles of Association*, the supervisors shall attend meetings of the Supervisory Committee and sit in on Board meetings on a non-voting basis. They shall report to the Shareholders' General Meeting, submit the Supervisory Committee's work reports and relevant proposals. By the end of 2018, the Company's Supervisory Committee consisted of nine supervisors, four of which were employee representatives.

The Supervisory Committee is accountable to the Shareholders' General Meeting. The Supervisory Committee formulated the *Organization and Rules of Procedures for the Supervisory Committee* and the *Rules on Supervisors' Performance of Duties*, setting out the manner, content, requirement and standard of appraisal with respect to performance of duties by the supervisors. All supervisors are urged to monitor the Company's finance and the legality and compliance of the directors and senior management of the Company in performing their duties, in line with their responsibility to all shareholders.

In 2018, the Company held four Supervisory Committee meetings in compliance with the provisions of the *Company Law of the People's Republic of China* and the *Articles of Association*. All of these meetings were legal and effective.

## Executive Body

The Company's executive management body is headed by the President and is composed of Senior Vice Presidents, Vice Presidents and a CFO. They are appointed by and held accountable to the Board of Directors. They implement Board resolutions and organize the day-to-day production and business activities of the Company in accordance with the *Company Law of the People's Republic of China* and the *Articles of Association of PetroChina* on the strength of authorization by the Board of Directors. The major business activities of the Company are detailed on our website.

### PetroChina's key actions in compliance management in 2018

- Established the compliance liaison person system and implemented compliance management responsibilities
- Printed and distributed the *Integrity and Compliance Manual*, organized employees to make compliance commitments in writing, and provide compliance training at our headquarters
- Revised the assessment standards and scoring methods for law-abiding and compliance-based business operation by major executives of our subsidiaries
- Launched special campaigns for compliance risk management in overseas business and sales enterprises

## MANAGEMENT SYSTEM

The Company stresses intensification, specialization and integration and has established a management system where responsibility is commensurate with authority, and is scientifically sound, lean, efficient, and vibrant, to strengthen the restrictions on and the supervision of the exercise of power. The Company aims at clear-cut control objectives, effective integration of resources and optimal efficiency and effectiveness, to improve our performance in respect of corporate social responsibility and achieve sustainable growth. The company actively boosts the integration and innovation of the management system, and promotes pilot programs for system construction and integration, in order to push forward reform of the management system and optimize resource configuration.

### Compliance System

The Company deems adherence to laws and compliance as the fundamental guarantee for high-quality development, insisting on the concept of putting adherence to laws and compliance above economic interests, and setting out ever more rigorous compliance management requirements. We strengthen the compliance demonstration and review of

major issues and major decisions and intensify compliance risk prevention and control, to ensure management and operation is in compliance with rules and regulations according to the law. By strictly implementing national laws and regulations and government regulatory requirements, and strengthening compliance management in key areas, we have put in place a compliance management mechanism focusing on prevention and attaching equal importance to punishment and prevention. Therefore, we have seen enhanced compliance awareness among all our staff and an increasingly intense compliance atmosphere in the Company.

### Internal Control and Risk Management System

We keep building up the internal control system to ensure a complete and effective design. In 2018, the Company's internal control system passed an external audit with no defects for the 13<sup>th</sup> consecutive year.

### Anti-corruption Risk Prevention and Control System

We treat our business partners, customers, suppliers, contractors and counterparts with integrity, respect and equality, oppose any form of commercial bribery and require our business partners to follow the Company's anti-bribery and anti-corruption policies. Our employees are not allowed to abuse their position in signing business contracts for one's own personal gain, or for the benefit of friends or family, or to obtain personal benefits. We abide by the relevant laws and regulations such as the *Company Law of the People's Republic of China* and the *United Nations Convention against Corruption*, and developed various measures including the *Punishment Regulations for Management's Violations and Non-compliance*, *Compliance Management Measures*, *Material Supplier Management Measures*, etc., to regulate the behavior of employees and the Company.

We verify all complaint letters and punished all corrupt officials, and we make unremitting efforts to combat corruption, comprehensively promoting the company's anti-corruption construction.

#### In 2018, we:

- Strengthened major risk assessment, further exercised dynamic risk management and improved the risk management information system
- Regulated information system control design and reduced risk probability
- Focused on key test areas, used more comprehensive test methods, and intensified tests for recurring problems
- Adhered to a problem-oriented policy, strengthened risk warnings and supervised implementation and rectification activities

13<sup>th</sup>

The Company's internal control system passed an external audit without any problem for the 13<sup>th</sup> consecutive year



#### In 2018, we:

- Regularly organized top-down supervision and inspection, and proactively identified clues to corruption
- Developed and applied a joint surveillance information system covering business areas
- Built an integrity, risk prevention and control system in main business areas, including oil and gas fields, refining and marketing
- Organized employees to enter into commitments against corruption and carried out a series of anti-corruption education activities in various forms and with rich content
- Handled a total of 92 complaints and reports about commercial bribery

We have a telephone hotline and an email address for reporting irregularities. The public can report cases of irregularities using their real names or anonymously. We will seriously investigate and give timely feedback, and keep the identity of informants confidential.

Whistle blowing hotline: 86-10-62094741

Whistle blowing email: jcbjb@petrochina.com.cn

The continuing connected transactions between the Company and its related parties are governed by the principle of fair, equitable and open pricing. Such transactions will not adversely affect the Company's future financial situation or operating results, nor will they result in any reliance on the related parties or affect the Company's independence. For more details about related party transactions in 2018, please refer to our annual report for 2018.

### Upholding Business Ethics

We abide by business ethics and market rules, and adhere to the principle of honesty and credibility, equal consultation, mutual benefit and common development, and promote transactions with high business integrity and transparency, in order to maintain fair and impartial competition in our business activities. We strictly comply with the *Anti-monopoly Law of the People's Republic of China*, the *UN Guiding Principles on Business and Human Rights* and other applicable laws, regulations and international practices on commercial bribery, extortion and fraud. We oppose monopolies and do not abuse our dominant market position. We fight against unfair competition in any form and comply with trade restrictions, and never conduct, participate in or support any forms of money laundering.

## Supply Chain Management

In 2018, we

- Provided material suppliers with new access through open bidding qualification review, opened channels for the publicity of new access review results, and accepted supervision and suggestions from suppliers
- Comprehensively promoted full coverage of on-site supplier inspections, and strengthened daily management and evaluation over material suppliers
- Developed more than 20 standard business processes for supplier management, and achieved real-time communication with suppliers, integration of business management, control and full-process digitization
- Established mechanisms for regular communication with strategic suppliers
- Dealt with unqualified products and suppliers by immediately ceasing purchase, suspending supply qualifications, timely returning and replacing of unqualified products, and lodging claims, thus avoiding the use of unqualified materials

## COMMUNICATING AND INTERACTING WITH STAKEHOLDERS

Stakeholders' trust and support is fundamental to the building of a sustainable business. We worked hard to enhance the quality and profitability of our development to maximize returns to our shareholders and value for our stakeholders, and to achieve our common goal of harmonious development and mutually beneficial maximization.



Actively performing our obligations to disclose information

- Improved management and related systems for the disclosure of key events
- Built a multi-level and multi-form mechanism to communicate with stakeholders through periodic reports, performance announcements, interim reports, media communications, interviews and visits, and interactive communication



Stakeholder consultation

- Responded to investors' questions and suggestions through our website, new media, teleconferences, email and fax
- Responded to criticism and opinions from all walks of life and accept supervision through the Open to Public Day, Gas Station Open Day, press meetings, customer symposiums, customer visits, questionnaires, and suggestion boxes, etc.
- Organized non-deal roadshows, reverse roadshows, "Company Day" and site visits by investors, and met visiting investors
- Held ESG-related discussions with environmental protection foundations and organizations



Industry participation

- The management actively attended high-level conferences and forums and delivered speeches, and shared industry experience and professional insights, for media and public's better understanding of the Company

**Case Study:****PetroChina Held Second “Company Day” Campaign and Post-event Reverse Roadshow**

In May 2018, the Company held the second “Company Day” and the post-event reverse roadshow which attracted 112 investors and analysts from 81 institutions, including Goldman Sachs, UBS, BlackRock, HSBC, Haitong Securities, China Everbright and Shenwan Hongyuan Securities.

The event lasted for one and a half days. Through expert lectures, discussions, on-site visits and a variety of activities, the Company conducted extensive and in-depth exchanges with its investors on a wide range of topics, such as the global oil and gas trading market system and China's opportunities; global oil and gas demand and price forecast; greenhouse gas emission control; and progress in shale gas exploration and development.

**Case Study:****PetroChina Held “Refueling for Dreams” Public Day Event**

In June 2018, the Company held a public day event themed on “Refueling for Dreams” in Tianjin. More than 50 entities under PetroChina nationwide were open to the public. People from all walks of life, including NPC deputies, CPPCC members, media reporters, primary and middle school students, and local residents, were invited to get close to, learn more about and gain a deeper insight into petroleum.

**8**

A total of eight roadshows and reverse roadshows in 2018

**90+**

Answering over 90 questions from investors through Investor FAQs and <http://sns.sseinfo.com/> in 2018

In 2018, the Company organized field studies for shareholders, institutional investors, analysts and financial media at the compressor station for the West-East Gas Pipeline in Dachan Island of Shenzhen City, Southwest Oil & Gas Field, Xinjiang Oilfield, Karamay Petrochemical, Xiangguosi Gas Storage in Chongqing, and the Petroleum and Gas Exchange. Through these activities, the participants deepened their understanding of PetroChina's production and operation, and discussed the performance and achievements of the Company in ESG.



▲ Investors and analysts went to PetroChina West East Gas Pipeline Company for field investigation and research

Stakeholder	Expectations	Communication Approach
 <b>Governments</b>	<ul style="list-style-type: none"> <li>• Stable energy supply</li> <li>• Harmonious economic and social development</li> <li>• Leading role of brand and technology</li> <li>• Tax payment according to law</li> </ul>	<ul style="list-style-type: none"> <li>• Offer company expertise</li> <li>• Attend to public concerns and improve corporate behavior</li> <li>• Launch strategic cooperation with relevant departments</li> <li>• Attend seminars and forums</li> </ul>
 <b>Shareholders</b>	<ul style="list-style-type: none"> <li>• Standardized corporate governance</li> <li>• Stable business growth</li> <li>• Sustainable development</li> </ul>	<ul style="list-style-type: none"> <li>• Fulfill requirements on statutory information disclosure</li> <li>• Organize non-deal roadshows and other activities</li> <li>• Issue reports and announce results performance on a regular basis</li> <li>• Receive public opinions through Investor FAQs and <a href="http://sns.sseinfo.com/">http://sns.sseinfo.com/</a></li> <li>• Organize reverse roadshows and site inspections</li> </ul>
 <b>Employees</b>	<ul style="list-style-type: none"> <li>• Basic rights guaranteed</li> <li>• Professional development</li> <li>• Growth in wages and benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Elect employee representatives to join the Supervisory Committee</li> <li>• Establish trade unions at all levels</li> <li>• Convene employee representatives meetings and make reports</li> <li>• Organize employee training programs</li> <li>• Set up a complaints and feedback system</li> </ul>
 <b>Consumers</b>	<ul style="list-style-type: none"> <li>• Provide safe, environmentally friendly, high-quality products</li> <li>• Constantly improve the quality of services</li> <li>• Operate with integrity</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out activities to protect consumers' interests</li> <li>• Publicize commitment to quality services</li> <li>• Provide hotline services</li> <li>• Conduct customer satisfaction surveys</li> </ul>
 <b>Business partners</b>	<ul style="list-style-type: none"> <li>• Fair and transparent procurement</li> <li>• Win-win cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• Hold tendering meetings</li> <li>• Hold large cross-border business negotiations and technical exchange meetings</li> <li>• Use the electronic trading platform</li> <li>• Engage in sharing managerial practices and technical standards</li> <li>• Conduct contract negotiations and routine meetings</li> <li>• Hold training for business partners</li> <li>• Conduct daily operation meetings</li> </ul>
 <b>NGOs</b>	<ul style="list-style-type: none"> <li>• Improve sustainable management</li> <li>• Perform social responsibilities such as poverty alleviation and environmental protection</li> </ul>	<ul style="list-style-type: none"> <li>• Share the Company's experiences</li> <li>• Participate in NGO activities</li> <li>• Promote international communication</li> </ul>
 <b>Communities</b>	<ul style="list-style-type: none"> <li>• Promote employment growth</li> <li>• Protect community environment</li> <li>• Promote economic development in the community</li> <li>• Respect cultural traditions of the community</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dialogues with local communities</li> <li>• Organize community visits</li> <li>• Conduct social and environmental impact assessments of projects</li> <li>• Promote knowledge sharing and education programs</li> <li>• Increase information disclosure</li> </ul>

### Key Actions

- Behave legally and ethically, and abide by the applicable laws and regulations in the jurisdictions where we operate
- Stabilize oil and gas supplies
- Participate in discussions organized by the government on climate change, energy conservation and emission reduction
- Promote local employment and cultivate local talents
- Pay taxes according to law

- Operate in a responsible manner to maintain a good reputation
- Convene Shareholders' General Meetings
- Ensure equal treatment of shareholders, and value the opinions of both small and medium-sized shareholders
- Strengthen management over investor relation and hold dialogues with investors and shareholders in various ways

- Enhance employee training and skills development
- Organize vocational skill contests
- Conduct occupational health checks
- Promote local employment in overseas operations
- Provide a career development platform for employees
- Protect employee safety in overseas operations

- Enhance quality management
- Improve service quality at refueling stations
- Increase the supply of clean fuel, such as natural gas, high-standard gasoline and diesel
- Secure oil supplies for disaster relief and agricultural production
- Organize Refueling Station Open Day activity

- Strengthen centralized procurement management to provide suppliers with equal opportunities
- Enhance communication and coordination with contractors and strengthen the HSE management of contractors by creating a safe and healthy working environment
- Improve security measures and the emergency response network
- Open the investment field
- Hold high-level forums

- Submit a progress report to the UN Global Compact (COP)
- Attend to external concerns through various forms of communication
- Play an active role in participating in and supporting international environment and standardization initiatives
- Participate in a wide range of forums and conferences

- Participate in disaster relief and reconstruction, and provide financial support for education and poverty alleviation
- Support and drive local economic growth through large projects
- Supply clean energy, e.g. natural gas, to remote regions
- Hold volunteering activities among employees
- Procure locally, where the business is carried out
- Provide job opportunities and training for the local community

# ENERGY AND THE ENVIRONMENT

The destiny of humankind and nature is intertwined, and harm done to nature by humankind will ultimately harm humankind itself, thus only by observing the law of nature can we avoid pitfalls in the exploitation and utilization of natural resources. We incorporate care for people's lives and environmental protection into our corporate mission. To adhere to the global trend of energy transition, we make great efforts to develop clean, low-carbon, safe and efficient energy, continuously upgrade the management and control of carbon emissions, and endeavor to build PetroChina into a resource-conserving, environmentally friendly and safety-conscious business.



## ENERGY AND THE FUTURE

As energy transition has become a prominent feature of global energy development, governments, industries and all sectors of society have reached a consensus on clean and low-carbon development. However, fossil fuels will remain the main energy source for decades to come, whereas natural gas, as a clean, low-carbon, safe and efficient energy, will play an increasingly significant role in the global energy transition.

### Opportunities and Challenges

**Energy demand continues to grow.** The United Nations' *World Population Prospects* estimates that the world population will reach more than 9 billion by 2050. Population growth, urbanization and industrialization of developing countries will continue to drive global energy demand and consumption growth.

**Fossil fuels remain the dominant energy source.** The adjustment of the energy consumption structure is accelerating towards clean, low-carbon, safe and efficient development, and non-fossil energy will grow rapidly, but fossil energy will remain the most important energy source. The share of oil in primary energy consumption has remained basically stable. Natural gas has been the fastest growing fossil energy, and will represent around 30% of primary energy consumption by 2050, overtaking coal and oil as the largest energy source in the world.

**Transition to low-carbon energy with the goal of limiting global warming to less than 2°C.** Climate change has become a major issue that affects the future of the planet and humankind. The Paris Climate Conference confirmed the goal of keeping global warming less than 2°C by the end of this century, and that clean energy and low-carbon is the way forward.



### SDGs



**Equal access to energy.** More than 1.2 billion people around the world still lack access to affordable modern energy, and thus lose the opportunity to achieve equal development. Helping these groups of people to have equal access to energy is an integral part of achieving the Sustainable Development Goals (SDGs) of the United Nations.

### Strategic Response

Oil and gas will remain the world's major energy source for a long time to come. In the short and medium-term, the Company will mainly focus on the oil and gas business while further adjusting the business structure:

Implement supply-side reform to help improve China's energy structure, expand the development and utilization of natural gas, new energy and renewable energy, and provide cleaner energy to the society. By 2020, the Company's domestic oil and gas equivalent production will reach 1:1, enabling more low-carbon energy supply. We will also steadily promote the use of biomass energy, geothermal energy and other associated resources.

Strengthen energy consumption management in the production process, optimize the Company's structure and layout, enhance pollution prevention and treatment, and improve the level of clean production and operation in the whole life cycle.

Take the opportunity of China's rapid development in its environmental protection industry and the reform of the mixed ownership of state-owned enterprises, strengthen international cooperation and marketization process, and build up new momentum for PetroChina's green development in low-carbon technology, environmental protection industry and green finance, etc.

## RESPONSE TO CLIMATE CHANGE

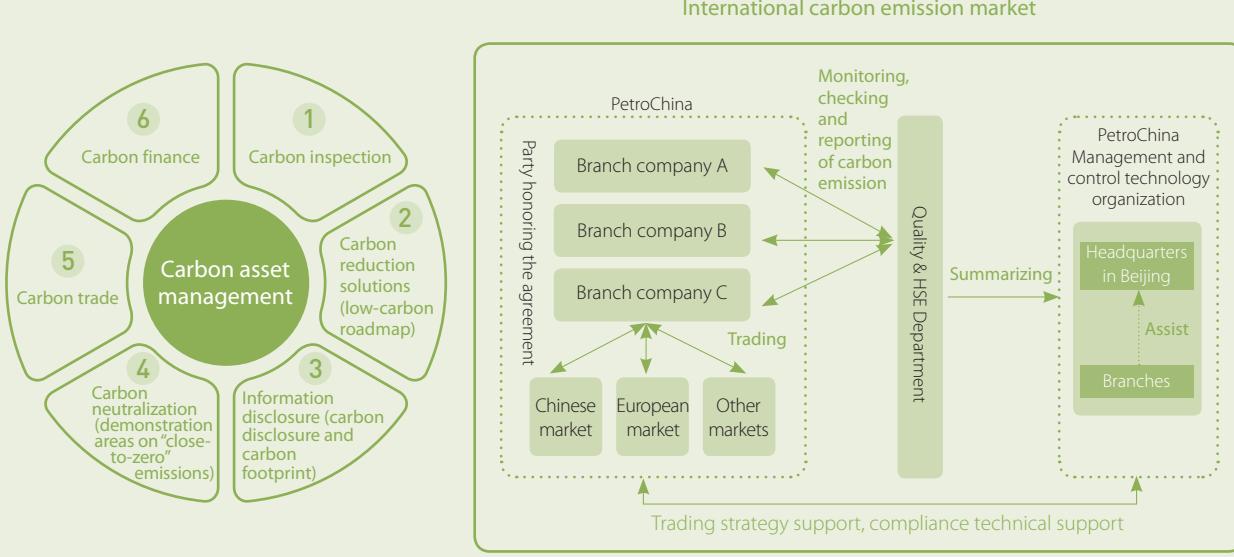
At PetroChina, we support the goal of limiting global warming to less than 2°C by the end of this century. To this end, we implement the low-carbon development strategy proposed by the Chinese government, and we strive to be the supplier of clean energy and the promoter of low-carbon transition of the society, and share the practices of greenhouse gas control with industry peers and all segments of society.

The Company's Board of Directors attaches great importance to climate-change-related risks and opportunities, and includes them in the Company's development plan. We pay close attention to existing and emerging carbon markets, and have formulated climate-related plans such as the *Roadmap for Low-Carbon Development*, the *Action Plan for Green Development* and the *Action Plan for Ecological Conservation*. At the management level, we continue to strengthen climate-related risk management, carbon emissions management and carbon risk management.

### Curbing Methane Emissions

PetroChina has carried out methane emission inspections on the full cycle of the oil and gas production process and monitoring of methane emissions at key links. The Company's methane emission sources mainly include flares, production discharge, dewatering separation, wastewater sludge disposal, pneumatic controller, compressor and tanks.

The Company has strengthened efforts to reduce leakage emissions, vent gas and flare discharge, and enhanced methane recovery in major oil and gas fields. A total of 48 recovery stations have been built in Tarim Oilfield, with a recovery capacity of 4.2 million cubic meters per day.



PetroChina carbon asset management system



### Plans and initiatives for greenhouse gas emission reduction and control supported and participated in by PetroChina

- Paris Agreement
- China's National Program to Address Climate Change
- National Plan on Climate Change (2014-2020)
- China Technology Strategic Alliance for CO<sub>2</sub> Capture, Utilization and Storage Technology Innovation (CTSA-CCUS)
- Oil and Gas Climate Initiative (OGCI)

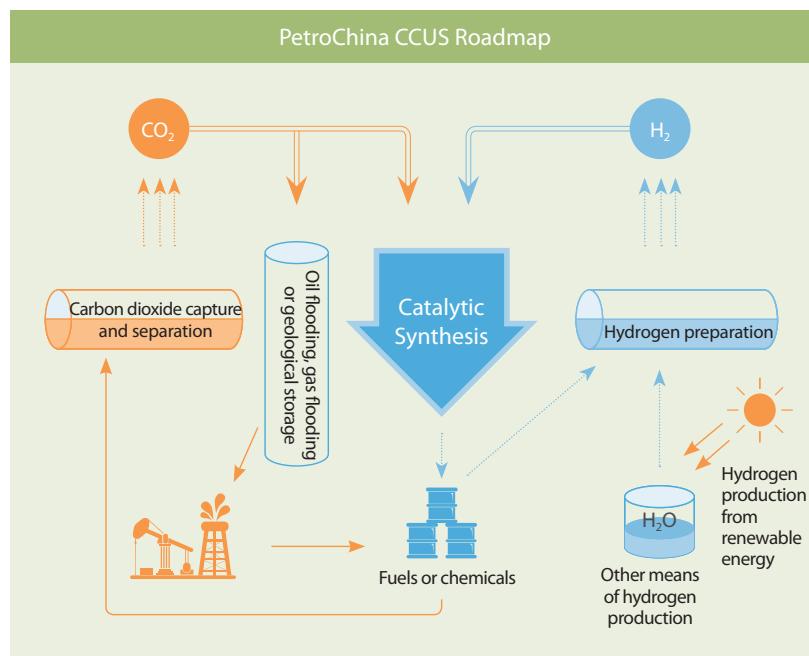
PetroChina was named a "Low Carbon Model in China" for the eighth consecutive year at the ninth "Low-carbon Development • Green Life Charity Exhibition"

### Case Study: Carbon Capture, Utilization and Storage (CCUS) Technology Promotes Low-Carbon Development

CCUS, low-carbon energy and energy conservation efficiency are three major driving forces for realizing the goal of the *Paris Agreement*, and are particularly important for reaching the goal of "zero emissions" of greenhouse gases by the end of this century. We recognize the value of CCUS to the oil and gas industry, and continuously strengthen cooperation with the government and the community.

The integrated project of carbon dioxide capture, flooding and storage in Jilin oilfield has entered the industrialization stage. Three CO<sub>2</sub> injection stations have been built in Jilin oilfield, and the carbon dioxide storage rate was kept above 93% by using CCS-EOR technology, ensuring the clean production of CO<sub>2</sub> rich natural gas in Changling gas field.

Over the past four years, the project has accumulatively captured and stored 1.385 million tons of carbon dioxide and increased the output of crude oil by 750,000 tons.



## The Company's low-carbon development roadmap



### 3. Infuse low-carbon development into technological innovation

- Reinforce the synergy of enterprises, colleges and universities, research institutes and users to accelerate the translation and popularization of cutting-edge technology and research findings.
- Build a first-class green technology support platform and enhance indigenous technological innovation capacity in terms of energy conservation, emission reduction and environmental protection.
- Take active part in the work of OGCI and other international organizations and conduct cooperation in various fields.



### 4. Infuse low-carbon development into social responsibility

- Take an active part in the south-south cooperation on climate change, and construct corresponding demonstration on low-carbon projects in accordance with the general arrangements of the Belt and Road Initiative.

- By 2030, continue to increase the supply of natural gas and other clean energy, make sure that domestic natural gas production accounts for 55% of the Company's domestic primary energy, and effectively control the growth in greenhouse gas emissions by expanding natural gas production capacity, with the greenhouse gas emission volume set to reach its peak earlier than expected.

By

2050

- By 2050, uphold the principle of low-carbon development and reach international advanced level in low-carbon development, thus making a significant contribution to China's efforts to honor international accords on climate change and to curtail greenhouse gas emissions.

**Carried out emission reductions relying on science and technology to reduce greenhouse gas emissions in production processes**

#### Develop CCUS technology

- Set up CCUS demonstration projects for carbon capture and storage in Junggar Basin, Ordos Basin and Songliao Basin, etc., and developed relevant technologies such as carbon dioxide flooding and storage and the assessment of carbon sequestration potential.
- Built China's first full-industry chain CCUS base for CO<sub>2</sub> separation, capture and flooding in Jilin Oilfield with an annual storage capacity of 300,000 tons.

#### Active participation in various activities under the OGCI framework

- Participated in the development of OGCI methane emission control objectives and implementation program.
- Established OGCI Climate Investments China with partners.
- Participated in relevant cooperative research work.
- Senior management of the Company attended OGCI 2018 corporate leadership summit and delivered a speech.

**Continuously build carbon sink forests**



OGCI's methane emission control target: By 2025, reduce the collective average methane intensity of the aggregated upstream gas and oil operations to below 0.25%, with the aim of hitting 0.2%.

### Case Study: OGCI Promotes Industry's Carbon Emission Reduction

As the only member of OGCI in China, China National Petroleum Corporation (CNPC), PetroChina's parent company, is deeply involved in international cooperation to address climate change, and works with other OGCI members to achieve low-carbon transition in the oil and gas industry. PetroChina takes an active part in CNPC's endeavors under the OGCI framework.

#### Low-Carbon Cooperation Strategy Study and Standard Setting

Active participation in research on low-carbon cooperation strategies and standard-setting under the OGCI framework:

- Low-carbon strategy: Participated in the drafting of *OGCI-2040 Low Emissions Roadmap* and OGCI Methane Emission Control Objectives and Implementation Program, and the completion of the *Study on the Potential to Reduce Carbon Emissions from Agriculture, Forestry and Other Land Use*.
- Clean use of natural gas: Jointly verified and monitored methane emissions from the entire industry chain of the global oil and gas industry.
- CCUS Commercialization: Participated in CCUS commercialization strategy studies to form CCUS commercialization programs for different regions and countries.
- Standard-setting: Led the development of *Carbon dioxide capture, transportation and geological storage -- Quantification and verification (ISO/TR 27915)*, laying the technical foundation for emission reduction benefit evaluation and carbon market access of CO<sub>2</sub> sequestration projects.

#### Establishment of OGCI Climate Investments China

Cooperated with OGCI Climate Investment Fund (CI) to establish Climate Investments China, in order to invest in China's low-carbon domestic business, promote research, demonstration and dissemination of low-carbon technologies and business models in China, and explore opportunities for low-carbon transition in the oil industry.

#### Industry Exchanges

Senior company representatives attended the OGCI 2018 corporate leadership summit and shared their professional experience and discussed the role of natural gas in the energy transition of developing countries, enhancement of energy efficiency, and strengthening of international energy cooperation, among other issues.



▲ Oil and Gas Climate Initiative (OGCI) Annual Convention 2018 held in the US

## CLEAN ENERGY

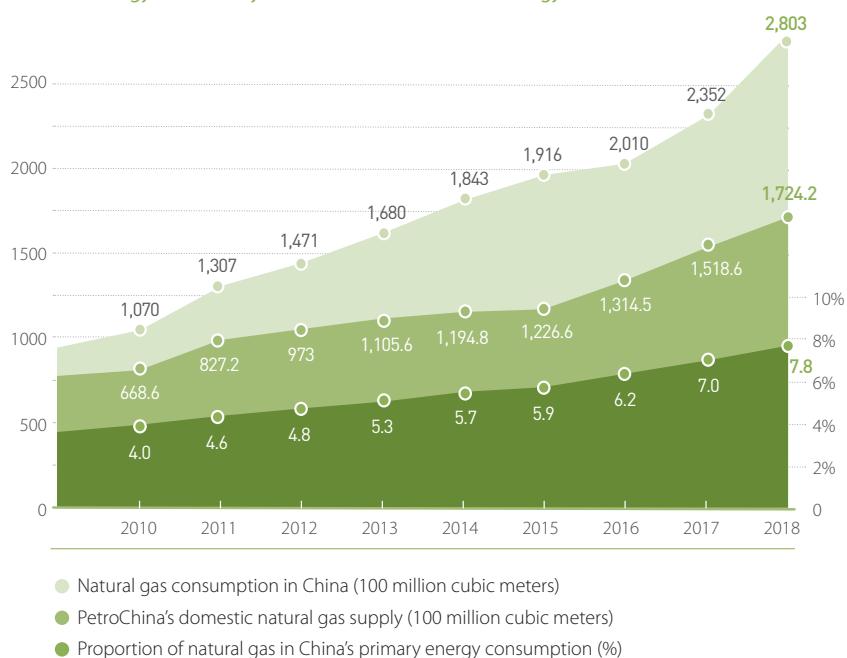
We focus on the sustainable supply of clean energy in the future, vigorously develop natural gas, continue to upgrade the quality of oil products and explore new energy sources to meet the needs of the society for clean and high-quality energy.

### Natural Gas

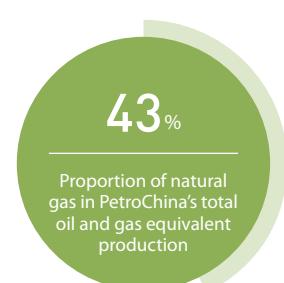
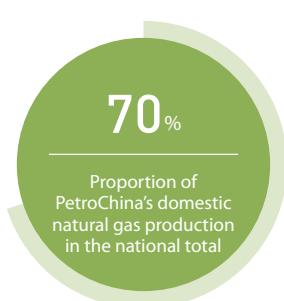
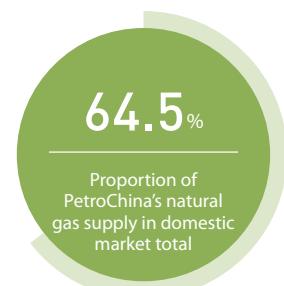
Regarding natural gas as a strategic and growing business, the Company keeps promoting natural gas exploration and development, accelerating the construction of cross-border gas pipelines and domestic gas pipeline backbone network facilities, advancing development of conventional gas and unconventional gases such as tight gas, shale gas and coal-bed methane. In addition, the Company introduces natural gas resources from abroad through multiple channels in order to form a diverse energy supply system.

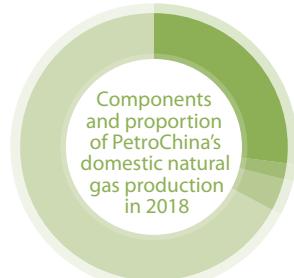
#### Green power and improving energy mix

Source: Energy Statistics by CNPC Economics and Technology Research Institute



In 2018, the Company produced 102.15 billion cubic meters of natural gas, including domestic production of 94.14 billion cubic meters, up by 5.4% year-on-year and accounting for 70% of the national total. We increased the import of pipeline gas and LNG, and supplied 176.4 billion cubic meters of natural gas, an increase of 14.7% over 2017. This contributed to the optimization of China's energy structure and the construction of a beautiful China.





● Tight gas	27.03%
● CBM	1.77%
● Shale gas	3.90%
● Conventional natural gas	67.30%

## Unconventional natural gas

### Shale gas:

- Compiled *Special Plan for Shale Gas Development 2021-2030* of the Company
- The production at state-level shale gas demonstration zones at Changning-Weiyuan and Zhaotong reached 4.264 billion cubic meters in 2018, and the daily production reached 20 million cubic meters to ensure a steady supply in winter
- Made major progress in the assessment of deep shale gas in west Chongqing

### Coal-bed methane:

- Built coal-bed methane industry bases in Qinnan and Edong
- 52.354 billion cubic meters of proven geological reserves of coal-bed methane were added, and coal-bed methane production stood at 1.93 billion cubic meters

## Natural gas utilization and alternative fuels

We promote the comprehensive utilization of natural gas in city gas, industrial fuels, natural gas power generation, chemical materials and vehicle fuels. In 2018, the Company vigorously promoted coal-to-gas projects, and achieved full coverage of "coal-to-gas" in Bazhou, Zhuozhou, Baoding, Qinhuangdao, Tangshan and Hengshui in Hebei province.

## Oil Product Quality Upgrading

We optimize the energy consumption structure by upgrading refined products. In 2018, all refining subsidiaries completed the task in Stage A of upgrading oil product quality to the national VI, and more than RMB 3.4 billion was invested to build a batch of new quality upgrading projects. We supplied 112.9 million tons of refined oil (gasoline and diesel) in China, accounting for 32.4% of the domestic market share.

## We actively respond to



Action Plan to Win Battle for Blue Skies



Work Plan for Accelerating Quality Upgrading of Refined Oil



Lower emission (in comparison with national V oil products)

Gasoline engine exhausts: Particulate matter down by 10%, NO<sub>x</sub> and VOCs down by 8%-12%

### Case Study: PetroChina Helps Beijing-Hebei-Tianjin Win Battle for Blue Skies

PetroChina actively cooperates with the local governments of Beijing, Tianjin and Hebei and joins forces with other companies to increase the natural gas supply, and promote the construction of natural gas pipelines and “coal-to-gas” projects, so as to meet clean energy needs in the Beijing-Tianjin-Hebei region and improve regional air quality.

#### Clean energy supply

- By the end of 2018, the first, second and third Shaanxi-Beijing Gas Pipelines delivered a total of 205.596 billion cubic meters of natural gas to the Beijing-Tianjin-Hebei region, the combustion value of which equaled to CO<sub>2</sub> emission reduction of 292 million tons, SO<sub>2</sub> emission reduction of 4,523,100 tons, smoke dust reduction of 186 million tons
- All of PetroChina’s refining subsidiaries completed the National VI A stage oil quality upgrade, providing “2+26” cities in the Beijing-Tianjin-Hebei region and surrounding areas with national VI oil products in advance

#### Pollution control

- All subsidiaries achieved zero coal consumption in “2+26” cities in the Beijing-Tianjin-Hebei region
- Low nitrogen transformation of gas fired boiler in Beijing
- The oil and gas recovery in our service stations and VOCs treatment at our refining companies improved comprehensively, and the oil and gas emission concentration of all service stations and depots met the relevant standards and requirements
- Automatic smoke emission monitoring facilities were installed at all elevated emission sources and were connected to local governments’ network

According to the air quality report for 2018 released by the Ministry of Ecology and Environment, the proportion of days with good or excellent air quality in Beijing, Tianjin, Hebei and surrounding areas was up 1.2% year-on-year, while PM2.5 concentration was down 11.8% year-on-year.

## New Energy

In 2018, PetroChina continued to expand its new energy business in geothermal energy, solar energy, hydrogen energy, bio-fuels, and charging (battery exchange) stations. The Company’s new energy development plan and objectives are detailed in the Investor FAQS.

### Geothermal energy



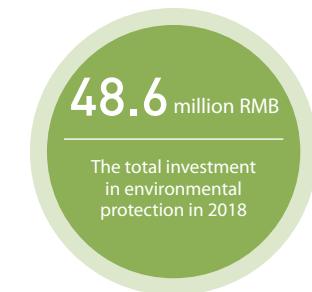
The Company’s investment in 2018 was RMB 480 million. Five projects, including geothermal heating in Caofeidian New City and Petroleum New City of Huabei Oilfield (Phase I), utilization of waste heat from produced water in Daqing Oilfield, Huabei Oilfield and Jidong Oilfield were carried out according to the plan.

### Hydrogen energy

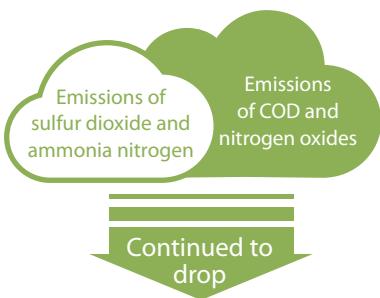


In September 2018, the first hydrogen filling station in Wuhan, Hubei Province was built, with a capacity of 300 kg per day. PetroChina participated in the R&D and manufacturing of the core equipment.

## ENVIRONMENTAL PROTECTION



PetroChina actively responds to global initiatives and international conventions including the UN's *2030 Agenda for Sustainable Development* and *Convention on Biological Diversity*, and relevant requirements put forward by the Chinese government for environmental protection. We strictly observe applicable international and Chinese laws and regulations, and learn from advanced practices of the industry. We have drafted *Action Plan for Green Development*, *Plan for the Upgrading of Pollutant Discharge Standards*, *Roadmap for Low-carbon Development* and *Ecological Environment Protection Program*. The Company makes great efforts to build a green development system that covers all aspects throughout the industry chain, in order to achieve harmonious coexistence with the environment.



### Continuous Improvement of HSE Management

The Company attaches great importance to health, safety and environment (HSE), and gives top priority to safety and environment protection in our operations. We implement a unified HSE management system around the world, and have formed a globally integrated HSE working platform and risk management and control platform. We continuously strengthen supervision and safety training, and enhance HSE management performance. In 2018, our overall HSE performance has been making progress while maintaining stability.

We have established an environmental protection incentive mechanism to commend the units or individuals for their outstanding achievements, and to protect and reward individuals who report environmental violations. The environmental protection performance as a KPI index is included in the performance appraisal of senior management of the Company and senior managers of regional companies, and the accountability system for environmental protection performance and the lifelong accountability system for ecological damage have been put in place.

### Improving environmental risk management mechanism

We assess and identify environmental risks, implementing a risk prevention and control management model focusing on environmental forecasting, early warning and monitoring. In view of the "six major environmental risks", we have formulated



corresponding control plans and taken necessary preventive and control measures, effectively controlling the risk of water pollution, and preventing oil spills. We have established and improved an environmental risk management mechanism featuring "management in tiers, prevention and control by level", organized environmental emergency drills on a regular basis, improved the enterprises' capability to prevent and control environmental risks, and ensured that environmental risks are fully controlled.

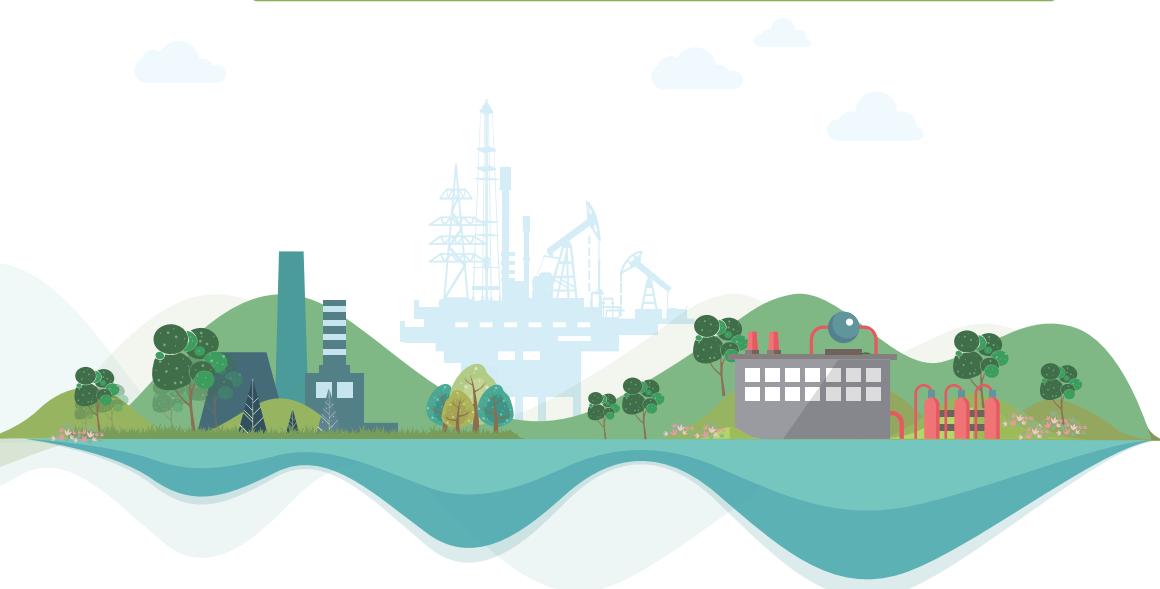
The Company strictly enforces national and regional laws and regulations on environmental protection, and implements the full life cycle management and control of production operations. We have strictly monitored the discharge of waste and pollutants in the course of production, strengthened waste management, and reduced emissions of air, soil and water pollutants, realizing a sustained decline in the discharge of major pollutants and a significant improvement in the ecological environment performance.



### Constructing Intelligent Environmental Supervision System

We have built an intelligent environmental supervision system through the integrated utilization of the internet, Internet of Things (IoT), remote sensing, geographic information system, big data and other technologies. VOCs are fully monitored on-line, the pollution source automatic monitoring system is upgraded, and supervision over all key elevated emission sources is provided. We enhance the environmental information management and control system, improve the company's pollution source files, implement whole process management of pollution treatment, upgrade the database of environmental compliance assessment, and carry out rectification of potential hazards and dynamic tracking of accountability. We strengthen emergency monitoring capabilities, improve environmental emergency monitoring networks and contingency plans, and conduct regular emergency monitoring drills.

Attaching great importance to the second national census of pollution sources, PetroChina has established a pollution sources census leading group headed by the Company's executive, set up the Pollution Sources Census Office, developed specific census work plans, and established a database for pollution sources information after inspection. The Company's information system for pollution sources census is now established and operational. At the video conference to promote the second national census of pollution sources, PetroChina, as the only enterprise representative, made a presentation on the development of the Company's pollution sources census, which was highly praised by the Ministry of Ecology and Environment.



### Participating in environmental standard-setting

We abide by the new requirements of national environmental laws, regulations and standards, and actively participate in the industry standard-setting. In 2018, we participated in the development of:

#### International standards

- *Rubber - Determination of ash - Part 2: Thermogravimetric analysis (TGA)*
- *ISO20676, Natural Gas - Upstream area - Determination of hydrogen sulfide content by laser absorption spectroscopy*

#### National standards

- Technical Guidelines for Self-monitoring of Pollutant Discharge - Petroleum Refining Industry
- HJ947-2018 Technical Guidelines for Self-monitoring of Pollutant Discharge - Petrochemical Industry

## 0.51 cubic meters

The Company's fresh water consumption for processing one ton of crude oil stood at 0.51 cubic meters, down 1.11% year-on-year

## 800.05 million cubic meters

Total fresh water consumption in 2018 was 800.05 million cubic meters

## 10.76 million cubic meters

10.76 million cubic meters of water was saved

### Water Management

The Company strictly complies with applicable laws and regulations on the protection of water and other resources, such as the *Environmental Protection Law of the People's Republic of China*, the *Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Waste*, and we endeavor to improve the efficiency of water utilization.

**Continuously improve the efficiency of water utilization.** Through measures including strengthening water conservation management and water-saving technological transformation, we strive to reduce fresh water consumption and realize sustainable water utilization.

**Strengthen water pollutant management.** The Company promotes comprehensive utilization of effluents such as heavy oil wastewater, oil production wastewater and fracturing backflow fluid from oil and gas field companies. Point source wastewater treatment and upgrades to the wastewater treatment plant are carried out to strengthen in-depth processing of wastewater. We enhance treatment of total nitrogen, total phosphorus and heavy metals while processing the conventional water pollutants.



▲ Sewage that attains water quality standards after being treated, attracting waterbirds

## Land Resources Management and Protection

The Company attaches great importance to the protection of land resources and has developed the *Measures for Land Management*, in order to achieve the sustainable use of land resources.

**Increase land utilization rate.** We increase the land utilization rate through innovations in land-saving technology and the management model. Specifically, we make careful and intensive use of land during production, strictly controlling land use growth, and optimize use of land in various ways such as active reclamation and carrying out environmental treatment and recovery in mining areas.

**Strengthen control and remediation of soil and groundwater pollution.** The Company adopts whole-process management and control of collection, storage, transportation, utilization and disposal of solid wastes such as oily sludge, drilling waste and used catalyst. Meanwhile, we improve pollution prevention and control facilities. Drilling waste in environmentally sensitive areas is collected on-site without contacting the soil, and oil-based drilling waste is recycled and disposed of after bio-safety treatment.

### Drilling waste treatment and recycling technologies in 2018:

- 7,300 wells were in operation, reducing land use by 726.67 hectares and waste discharge by 4.38 million tons.
- 58,157 tons of oil-based drilling waste was treated and 9,400 cubic meters of oil-based drilling fluid was recycled.
- Fracturing backflow fluid recycling liquid stood at 1.5 million cubic meters.
- Created benefits of over RMB 800 million.

**1,253** hectares

Saved 1,253 hectares of land in 2018

**100** %

100% of drilling waste was recycled and went through bio-safety treatment, clean operation rate was 80%

## Air Pollutant Management

The Company strictly abides by the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution*, *Integrated Emission Standard of Air Pollutants* and other laws, regulations and standards and continuously strengthens the treatment of conventional and special air pollutants. In 2018, we continued to promote practices including "replacing oil with electricity and replacing oil with gas" in the production process, and accelerated the comprehensive treatment of VOCs.



### Comprehensive measures for conventional air pollutants

- Upgrading of ultra-low emission boiler in thermal power plant
- Upgrading of refining and chemical process heating furnace for substitution of clean energy and low nitrogen combustion
- Capacity expansion and standard upgrading of sulfur recovery unit in refinery and natural gas purification plant



### Comprehensive measures for special air pollutants

- Treatment of waste gas from production processes, storage and loading of volatile organic liquid, wastewater collection and treatment facilities, etc.
- Leakage detection and remediation of refinery equipment

### Comprehensive Treatment of Volatile Organic Compounds (VOCs)

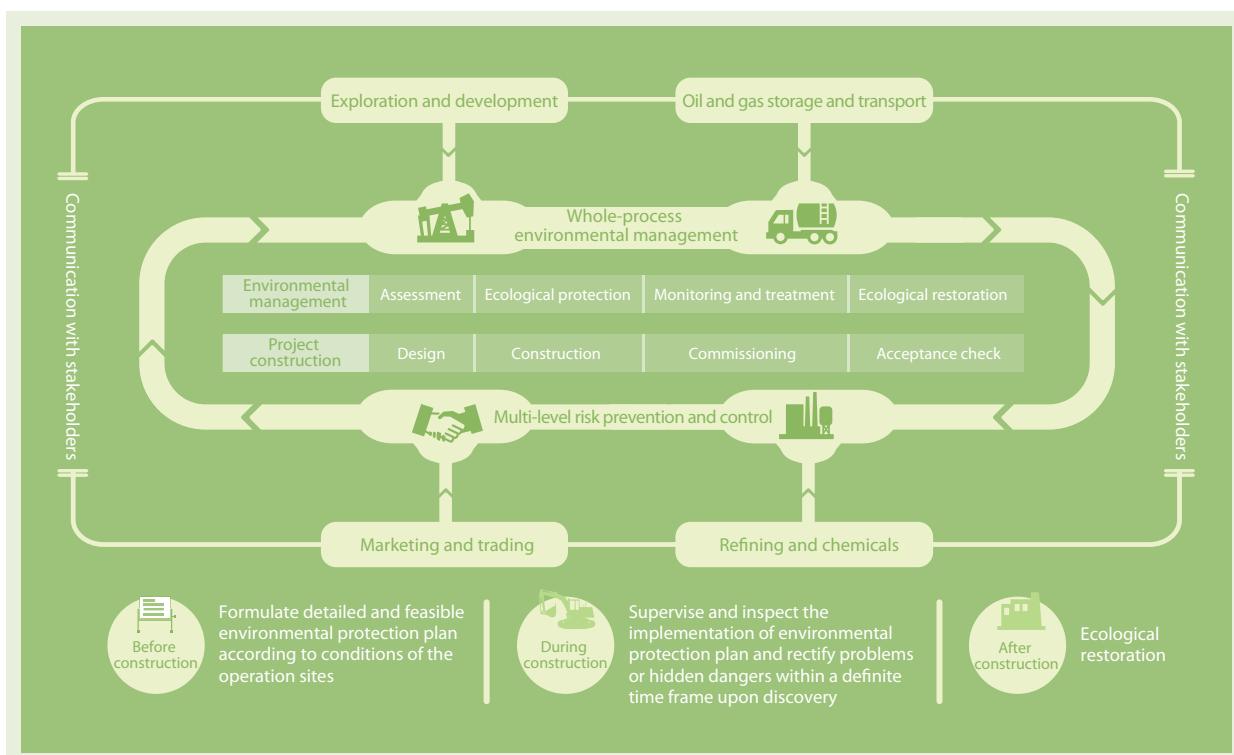
The Company strengthens VOCs management and control and has established a unified VOCs management and control platform to upload all the refining enterprises' Leak Detection and Repair (LDAR) data for unified management. More than 25 million items of data are collected on the platform, and 191 VOCs treatment projects are brought into the supervision platform for scheduling. Through the platform, the Company has basically realized "declarable, traceable and verifiable" VOCs management and control.

### Biodiversity Conservation

The Company is committed to reducing the potential impact on the environment and biodiversity during production and operation. We insist on the source management and control and implement environmental management in the full life cycle throughout the industry chain. We comprehensively check and rectify environmental pollution and ecological damage and reduce the impact on the ecology through noise reduction, emission reduction and other means.

In 2018, we endeavored to reduce the occupation of arable land and put a lot of effort into the conservation of soil and water and restoring the vegetation, working hard to restore the ecology of our operation areas.

### Whole process eco-environmental management throughout the industrial chain



### Key Practices in Ecological Protection



### Case Study: Changqing Oilfield Improves Surrounding Environment

Changqing Oilfield is located in the hinterland of the Loess Plateau, the Gobi Desert and the edge of the Mu Us Desert, with scarce water resources and fragile ecology. Facing severe environmental challenges, Changqing Oilfield attaches equal importance to environmental protection and oil and gas production and has carried out vegetation restoration at the production and living sites, well sites and along the roads in the oil regions, and built landscape architectures in light of the climatic characteristics and site conditions to take care of the ecology and beautify the environment.

As of 2018, Changqing Oilfield had formed five models for loess plateau, desert and other conditions to protect the ecology, and built nine carbon sink bases including Ansai and Longdong, saving 46,000 tons of TCE, 0.441 million cubic meters of water and adding 146.7 hectares of green land. Annual recovery of associated gas stood at 1 billion cubic meters, and emission reduction of sulfur dioxide reached 12,000 tons.

#### As of 2018, Changqing Oilfield:

saved **46,000** tons of TCE

saved **0.441** million cubic meters of water

added **146.7** hectares of green land

annual recovery of associated gas stood at **1** billion cubic meters

emission reduction of sulfur dioxide reached **12,000** tons



▲ Ansai Oilfield in Changqing

# EMPLOYEE DEVELOPMENT

At PetroChina, employees are our most valuable asset. The all-round development of employees is one of our important targets. We protect employees' rights, care for their physical and mental health, and provide a platform for their development. We continue to promote the hiring of local staff and have been strengthening security at our overseas operations. We endeavor to create an inclusive, equal, mutually trusting and cooperative working environment, and to ensure value is aligned to benefit both employees and the Company.



## EMPLOYEE RIGHTS AND INTERESTS

**100%**

100% of employees  
who took maternity/  
paternity leave  
returned to work and  
kept their posts in  
2018

We remain committed to a people-first philosophy in treating our employees with respect and equality while protecting their legal rights. We endeavor to resolve the most practical issues that our employees are concerned about and ensure that all employees share the fruits of our development on an equal basis.

### Fair Treatment of Employees by Law

We strictly comply with the applicable laws and regulations on the dismissal and working hours of employees, and, in line with specific circumstance of the Company, have formulated management regulations and detailed rules for their implementation applicable to all enterprises, employees and business courses of the Company. We conscientiously abide by international conventions approved by the Chinese government, including the *International Covenant on Economic, Social and Cultural Rights* and the *Elimination of Discrimination in Respect of Employment and Occupation*, along with domestic laws including the *Labor Law of the People's Republic of China* and the *Labor Contract Law of the People's Republic of China*, and relevant laws, rules and regulations of the host countries. We have formulated the *Measures for the Management of Employment Contracts* and the *Measures for the Management of Overseas Employment*, and established a complete employment management and policy system to regulate employment practices according to the law. The system incorporates employment contract management, remuneration insurance and benefits, leave, performance appraisal and



vocational training. Through self-inspection of our employment practices in compliance with the law, we regulate the recruitment and promotion of employees and the termination of employee contracts, and provide effective protection of the legal rights of employees. We are committed to providing equal opportunities and fair treatment to all employees regardless of their nationality, ethnicity, race, gender, religion and culture. We prohibit the employment and use of child labor and reject all forms of forced or compulsory labor. We emphasize the employment of local residents, women, ethnic minorities and college students in order to increase job opportunities for local communities. We strictly implement regulations on female employees' confinement and lactation to protect their rights and interests. We continue to open recruitment to the public, without restrictions on applicants' ethnicity, gender or religion.



- Administrative staff 27.71%
- Professional and technical staff 13.90%
- Operating staff 58.39%



- Master's degree and above 3.83%
- Bachelor's degree 32.87%
- College degree 23.16%
- Technical secondary school and below 40.14%



## Remuneration and Benefits

### In 2018, we:

- Revised and improved *Measures for Performance Assessment of Business Leaders* and detailed implementing rules
- Entered into interim performance contracts for 2018 and 2018-2020, ensuring full coverage of business leaders in performance appraisal

The Company has further improved its performance appraisal and remuneration system, promoted the mechanism to link payroll with performance, established a compensation scheme that pays attention to the value of a position, the job performance and the innovative results of employees while matching the particularities of all staff operations, ensuring that employees' compensation matches the Company's benefit and labor productivity. The compensation system continues to favor researchers, front-line employees, and those in hard and key posts, so that each employee can realize their full potential. In addition, we pay all social insurance premiums for employees on time and in full in accordance with the *Social Insurance Law of the People's Republic of China*, and we have improved corporate annuity and supplementary medical care and insurance, and improved production and living conditions for front-line workers, so as to ensure employees' interests are addressed.

## Democratic Participation

The Company attaches great importance to employee democracy and their legal rights and employees play a role through democratic management, democratic participation and democratic oversight. Apart from establishing and improving trade unions, PetroChina has put in place a democratic style of management and a transparent system to deal with matters at its plants, through its Employees' Congress system, to ensure employees are well-informed and have the means to participate in and supervise corporate management. We have further standardized the content, procedures and model of our open system for matters at our plants by clarifying duties and authorities, the organizational system, and working processes for the Employees' Congress.

The Company has established multiple channels to communicate with employees and has continued to implement democratic procedures. We communicate across different levels of the Company and conduct multi-level communication through meetings with staff representatives and online discussions, to encourage employees to participate in the management of production and operations.



▲ Staff Representative Conference of PetroChina Huabei Oilfield Company

## HEALTH AND SAFETY

Our health and safety management covers all staff, including our supply chain. We give top priority to employee health and personal safety by emphasizing occupational health management and protection at field operations, improving working conditions, abiding by the State's statutory working hours and holidays and caring for employees' mental health.

### Occupational Health

We abide by the *Prevention and Control of Occupational Diseases Act of the People's Republic of China* in our occupational health management, focusing on the prevention and control of occupational hazards as well as the implementation of related measures, such as poison prevention, dust removal, noise reduction and temperature reduction.

#### Key achievements in occupational health in 2018

Main Work	Content
 <b>Improved occupational health management</b>	<ul style="list-style-type: none"> <li>Revised the <i>Regulations on the Management of Occupational Health Archives</i></li> <li>Developed the <i>Criteria for Quantitative Audit of Occupational Health</i></li> <li>Improved occupational health protection facilities in workplaces and their management</li> <li>Carried out supervision and research on occupational health work</li> </ul>
 <b>Enhanced occupational health awareness</b>	<ul style="list-style-type: none"> <li>Launched the campaign of Occupational Health Awareness Week</li> <li>Provided special training for occupational health management personnel</li> </ul>
 <b>Identified substandard facilities for occupational disease prevention and protection at the workplace</b>	<ul style="list-style-type: none"> <li>Intensified rectification of facilities for occupational disease prevention and protection in laboratories and dusty environments</li> </ul>



**1,200** hours

The psychological counseling hotline provided about 1,200 hours of service

## Mental Health

We pay close attention to our employees' mental health. We abide by the local regulations on working hours and holidays and take measures to improve the employee vacation system. We implemented the Employee Assistance Program (EAP), regularly organized employee health examinations, set up a hotline and a website for psychological counseling and carried out various forms of training on mental health knowledge, so as to encourage employees to adopt a positive and healthy attitude. In 2018, the Company continued to implement EAP overseas in order to improve employees' mental health and their happiness. We assigned psychological experts to Kazakhstan, Brazil, Peru, Venezuela and some other countries in the campaign of "Providing Warm Help Overseas" to provide on-site mental health consultation.

### PetroChina's EAP overseas

EAP online platform	On-site counseling by experts	EAP training
Improved efficiency of psychological counseling service	Helped employees improve stress management capability and better maintain family bonds	Improved EAP talents training
In 2018, mental health counseling was provided to about 400 employees, and the counseling-related service totaled 1,200 hours	Psychological experts were sent to project sites to provide mental health counseling	A total of 10 sessions of psychological crisis response training, three EAP ambassador trainings, and seven sessions of Family Happiness Camp were held in 2018

## Safety and Security

PetroChina views production safety as a core value and implements this concept in all segments and all production and operation processes. We actively promote the building of a long-acting work safety system to raise the safety management level holistically. We took steps to further our supervision to better implement safety accountability, and by doing so, we consolidated basic work at grassroots level, and kept up a stable and controllable situation of operational safety.

### Production Related Fatal Accident Rate (FAR) (person/100 million working hours)





▲ PetroChina Jinzhou Petrochemical Company makes every effort to ensure operational safety

The safety of our employees has always been an overriding priority in our overseas operations. We established an overseas security prevention and control management system to ensure safety, promoted the operation of security management systems, strengthened comprehensive control of security risks, continuously enhanced emergency response capabilities, and eliminated security-related fatal incidents in overseas projects in 2018.

#### Key actions for strengthening security in overseas operation in 2018

Main Work	Content
 <b>Improve security management system</b>	<ul style="list-style-type: none"> <li>Revised the <i>Measures for the Administration of Overseas Production Safety Accidents</i> and the <i>Measures for the Administration of Overseas Road Traffic Safety</i></li> <li>Carried out filing inspections on the security management system for overseas projects</li> </ul>
 <b>Strengthen security risk assessment</b>	<ul style="list-style-type: none"> <li>Comprehensively assessed risk levels in foreign countries using new country-specific risk assessment tools</li> <li>Issued the <i>Annual Report on Overseas Security Risks 2018</i> in partnership with the Institute for National Security Studies of Renmin University of China</li> </ul>
 <b>Strengthen overseas emergency management</b>	<ul style="list-style-type: none"> <li>Carried out inspections on the emergency response plan for overseas subsidiaries and overseas projects</li> <li>Exercised emergency drills for transnational oil and gas pipelines</li> </ul>
 <b>Training on anti-terrorism for overseas employees</b>	<ul style="list-style-type: none"> <li>Provided 239 training sessions and trained 17,300 employees</li> <li>Organized training on security management for international business leading officials</li> <li>Provided training to HSE management personnel for 120 person-times</li> </ul>
 <b>Strengthen employee health management</b>	<ul style="list-style-type: none"> <li>Achieved full coverage of health examinations and assessment of expatriate personnel, provided employees with examinations and assessment totaling 18,000 person-times</li> <li>Assigned medical experts to Venezuela and Brazil for health check visits and medical aid</li> <li>Keep track of the global epidemic of infectious diseases, issued 35 warnings and tips in a timely manner</li> </ul>
 <b>Strengthen information-based management</b>	<ul style="list-style-type: none"> <li>Established the integrated information platform for overseas security, HSE and emergency management</li> <li>Continuously developed the features of the APP of "Overseas Risks", an overseas risk warning platform</li> </ul>

## EMPLOYEE DEVELOPMENT

We adhere to modern corporate concepts and advocate innovation in creating opportunities and mechanisms for employee development. We improved our training centers and network and addressed our employees' need for career development at different stages by providing career planning services. We strived to develop innovative employees and provided a stage for employees to develop their self-worth.

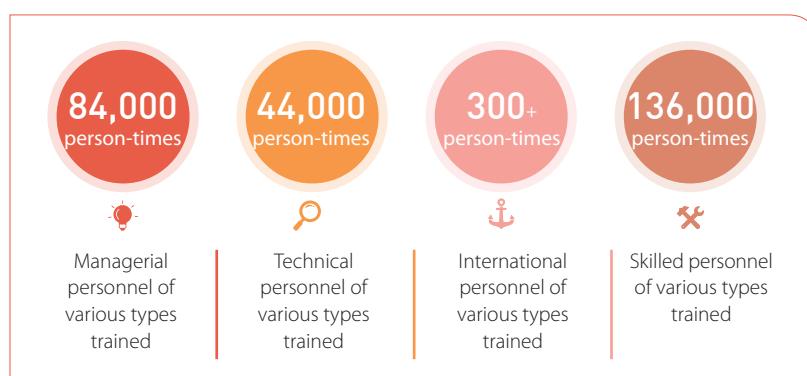
### Employee Training

By applying modern corporate training concepts, we continued to improve our training bases and training network. We carried out diversified and differentiated vocational training for employees through knowledge training, professional training, job training, off-the-job training, etc., in order to achieve positive links between employee development and the Company's development.



<b>100%</b> The training rate of front-line employees	<b>264,000</b> person-times Staff training	<b>21</b> million class hours Total training time
	<b>100%</b> The training rate of senior skilled personnel and key operation post employees	
<b>27</b> hours Average training time per person		<b>6.24</b> million person-times  Remote training: 6.24 million person-times, 8.75 million class hours, 252 projects, online examinations: 620,000 person-times

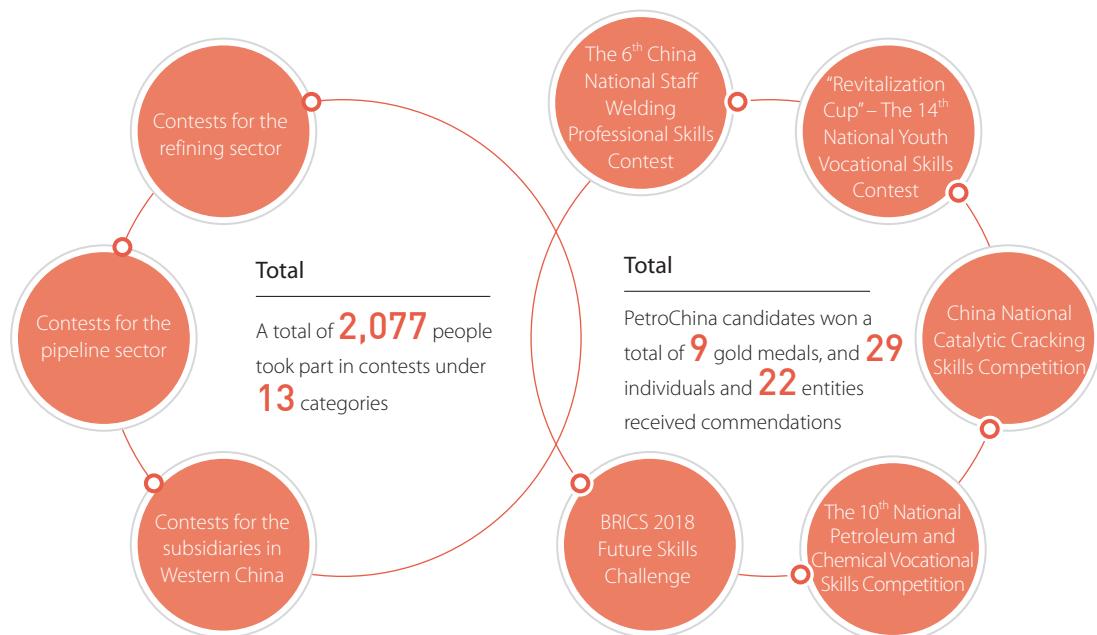
On the basis of full-staff training, we focused on the training of four types of personnel, including managerial, technical, international and skilled personnel. The Company's headquarters organized and implemented 133 training projects for over 20,000 employees.



## Main training programs of “Four Types of Personnel” in 2018

			
<p><b>Managerial Personnel</b></p> <ul style="list-style-type: none"> <li>Trained 169 enterprise leaders</li> <li>Provided advanced business administration courses in partnership with Tsinghua University and other institutes, trained seven enterprise leaders</li> </ul>	<p><b>Technical Personnel</b></p> <ul style="list-style-type: none"> <li>Selected 62 technical experts from two levels and people under the Outstanding Young Technicians Training Project for self-directed advanced learning at Tsinghua University, China University of Petroleum (Beijing) and other universities</li> <li>Selected 27 outstanding senior technical experts to participate in visits abroad, academic exchanges, and major special training programs</li> <li>Trained personnel in urgent need in such fields as unconventional energy, new installations, pipeline gathering and transportation, and rotary steerable drilling, provided trainings totaling 900 person-times</li> </ul>	<p><b>International Personnel</b></p> <ul style="list-style-type: none"> <li>Launched the “Thousand People Training Project for International Leading Talents”, and selected 40 people to participate in executive leadership training</li> <li>Organized talent training with well-known companies and universities such as GE, Caterpillar, University of Texas at Austin, and University of Houston, trained more than 100 core employees in key positions</li> </ul>	<p><b>Skilled Personnel</b></p> <ul style="list-style-type: none"> <li>Held Company-wide vocational skills competitions</li> <li>Took part in domestic and international vocational skills competitions</li> <li>Held 19 training sessions for skilled experts, trained 890 people</li> <li>Carried out the Petroleum Craftsman Development Program</li> </ul>

We improve employees' occupational skills and abilities through the combination of training and competition such as vocational skills competitions. Through these measures, we promote the development of front-line employees and test the results of grassroots training.



## Provide Unimpeded Career Development Paths

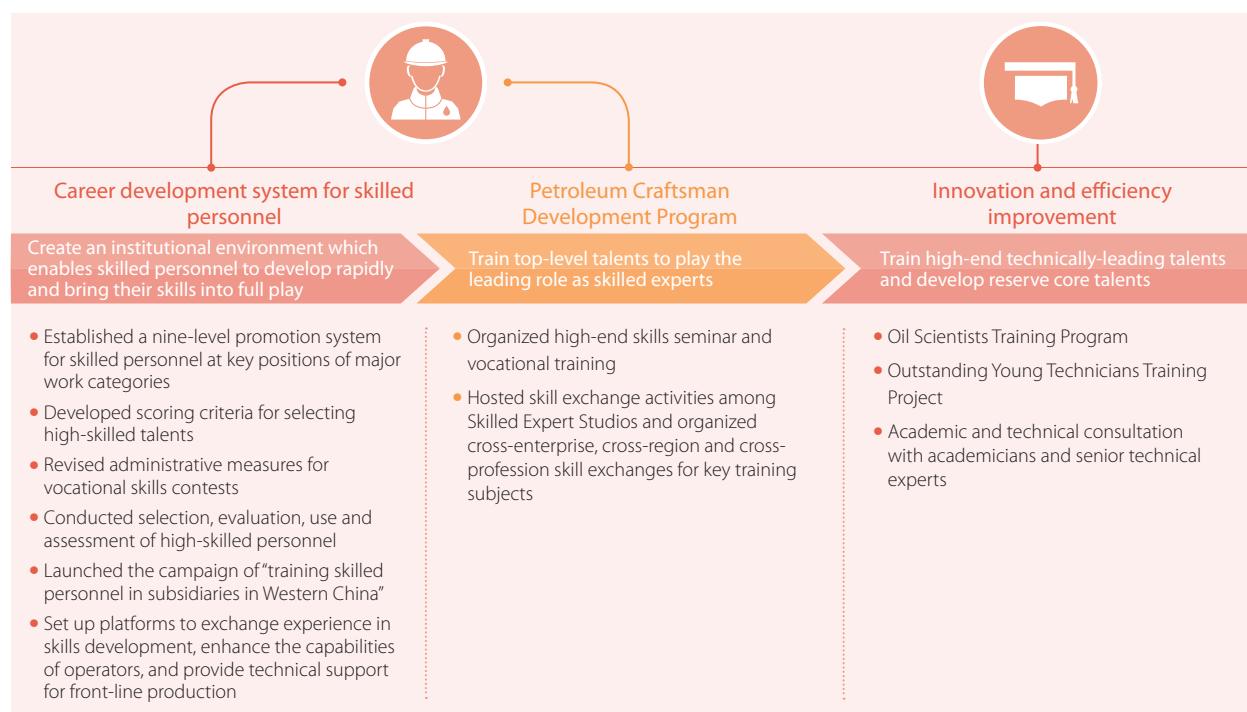
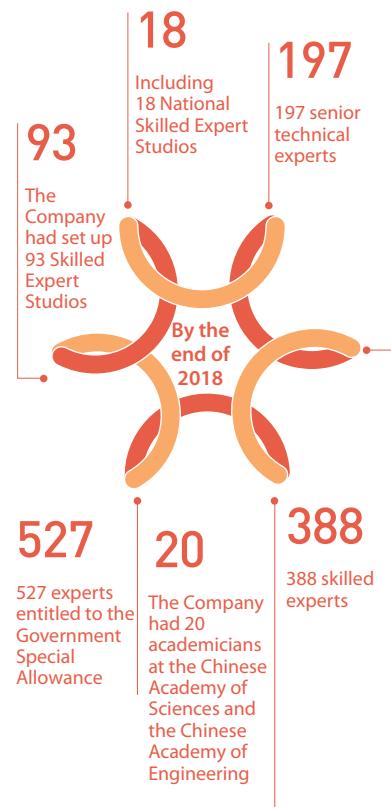
With a corporate culture that values moral integrity as well as professional competence, we have developed a selection process that is democratic, open, competitive and merit-based in order to create a positive atmosphere that enables the recognition and best use of talent. We attach great importance to the career planning of employees and endeavor to expand career development for employees to maximize their self-worth.

In 2018, we continued to promote the reform of professional rank-based career development for professional technical staff and provided technical professionals with an independent, unimpeded and stable career development path. Specifically, we signed agreements with 26 people to train them under our petroleum scientist development program, selected a new round of outstanding young talents for our talent cultivation program, and recommended 58 applicants for the Government Special Allowance (including 50 technical experts and 8 skilled experts), so as to open a career path for innovative talents.

### Case Study: Skill Exchanges among Skilled Expert Studios

The Company held Skill Exchanges among Skilled Expert Studios 2018 & Application and Promotion of Front-line Innovation Achievements. We organized Skilled Expert Studios in subsidiaries such as Southwest Oil and Gas Field, Bohai Drilling Engineering Company, Daqing Oilfield, and Liaoyang Petrochemical to carry out skill exchanges and exchanges in front-line innovation achievements, covering major types of production such as oil production, gas production, refining and petrochemical.

In the future, the Company will work to set up platforms for skill exchanges, application and promotion of front-line innovation achievements, and cultivation of skilled leading talents, and develop a long-term mechanism for exchanges among Skilled Expert Studios as well as application and promotion of front-line innovation achievements.



## • • • Outstanding Employees • • •



Yang Yixing, senior workover technician in the downhole operation team of No. 10 Oil Production Plant of Changqing Oilfield

Yang Yixing has participated in the development and construction of 11 oilfields, boasts 31 nationally patented technologies, and has developed more than 120 special tools in 12 categories, creating RMB 130 million worth of benefits.

*"All my inventions are made to solve the problems encountered by my colleagues."*

Hou Yu, Deputy Manager of No. 1 Branch of Eastern Route of Russia-China Gas Pipeline Project Department of PetroChina Pipeline Company

Hou Yu is the technical leader of the test section of the Eastern Route of Russia-China Gas Pipeline. He has significantly improved the welding efficiency in the extreme climate, setting a new world record for the one-time welding pass rate.

*"I never dare to slack off because I work with a group of brave and down-to-earth petroleum pioneers."*



Huang Ning, Safety Engineer in Yunnan Petrochemical

Huang Ning has developed a safety practice, through which, any violation by a single person will result in training for the whole team, and any violation by a team will result in shutdown and rectification. She is widely hailed as a "safety guard" as the practice has greatly reduced violations.

*"Safety is an important task which requires everyone's effort."*

## LOCAL HIRING AND DIVERSITY

At PetroChina, we embrace a respectful, open and inclusive culture and we are committed to "selecting more local talents who live close to our overseas operations, upgrading their professionalism and making them more responsive to market forces". We abide by all laws and regulations of the host countries. We formulated *Measures for Administration of Local Employees in Overseas Operations* and established an optimal system for hiring, deployment, performance appraisal, incentives and penalties. We work hard to attract and train top local talents and to provide them with a working environment conducive to their employee development.

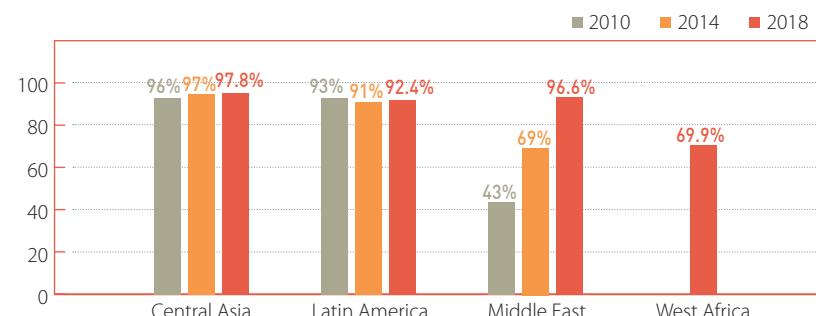
**92.7%**

In 2018, international employees and local employees accounted for 92.7% of our overseas workforce

### Local Hiring

We actively recruit and train local employees and do not discriminate against local candidates for managerial positions, providing local people with job opportunities. We have hired local professionals from the exploration and development, project construction, international trade, finance, accounting, and human resources management fields in over 30 countries and regions to work for overseas projects. In 2018, international employees and local employees accounted for 92.7% of our overseas workforce.

Proportion of local employees in major overseas business cooperation areas



PetroChina West Africa Ltd. was established in 2017

### Cultural Integration

PetroChina fully respects cultural diversity and local customs. We promote communication between employees from different cultural backgrounds and advocate respect for different values and traditions, in order to foster cross-cultural cooperation in a culturally diverse workplace.

#### Case Study:

#### PetroChina International (America) Inc. Took Part in the Dragon Boat Race

In May 2018, PetroChina International (America) Inc. took part in the Houston Dragon Boat Festival organized by the Texas Dragon Boat Association and achieved outstanding results.

Our American subsidiary's participation in the event over the years fully demonstrates our strong sense of team work, which not only promotes the cross-cultural exchange and integration within the team, but also helps PetroChina build its good social image in America. Houston Mayor Sylvester Turner and the Texas Dragon Boat Association expressed their appreciation for the Company's support for the event.

# SOCIAL CONTRIBUTION

As a company rooted within society, PetroChina has a duty to give back. Our ultimate goal is to promote socio-economic development, so we attach great importance to the well-being of people and social advancement. We expand our scale of joint ventures and cooperation, enhance local development capabilities, give donations to impoverished students as well as carrying out customer satisfaction and community service activities. Through our efforts, we strive to build a harmonious society.



## TARGETED POVERTY ALLEVIATION

**80,000+**

Over 40 targeted poverty alleviation projects benefited more than 80,000 people

Poverty alleviation is a major issue for global sustainable development around the world and also one of our key concerns. We have responded positively to the initiatives of the *United Nation's 2030 Agenda for Sustainable Development* and to the Chinese government's policies on poverty alleviation targeted at the improvement of people's livelihoods, industrial development, intellectual development and medical care. By leveraging our strengths in terms of industrial resources, we have taken targeted measures to help areas receive assistance to enhance their self-development ability and promote the sustainable development of the local economy.

In 2018, together with CNPC, we continued to carry out selected poverty alleviation and aid programs, and implemented over 40 targeted poverty alleviation projects, including those for the relocation of impoverished people, industrial development, knowledge training, and on-site medical consultation and treatment in 13 counties and districts in seven provinces (municipalities and autonomous regions) of China -- Xinjiang, Tibet, Qinghai, Chongqing, Henan, Jiangxi and Guizhou--, which resulted in bringing benefits to more than 80,000 people.



<b>4</b> 	<b>16 million</b> 	<b>8</b> 
The Safflower Industrial Park, Dairy Products Processing and Livestock Raising Cooperative and other projects were implemented in four counties in Xinjiang	Close to RMB 16 million worth of Guizhou specialty liquor products were sold by capitalizing on the strengths of our network of refueling stations, resulting in generating over RMB 3 million tax income for the local government	Eight out of ten designated poverty alleviation counties were lifted out of poverty
<b>11</b> 	<b>1,400 +person-times</b> 	<b>6</b> 
The election of officials responsible for the designated poverty alleviation was completed with the appointment of 11 new officials, including the first secretaries of the villages	More than 1,400 person-times of training were provided to poverty-stricken people, adding 604 people to the workforce	The kick off of the "Women Returning Home to Work" project in 2016 supported a total number of six labour-intensive cooperatives which promote female employment in four assisted areas
<b>40 million+</b> 	<b>6.64 million</b> 	<b>660 million</b> 
Fanxian county in Henan province enjoyed a boom in its chemical industry, and our subsidiary in Fanxian supplied the local leading chemical enterprises with materials for processing, which led to an increase in the sales revenue by more than RMB 40 million	RMB 6.64 million worth of agricultural products were purchased and sold in 10 designated poverty alleviation counties	13 enterprises were introduced to the assisted areas, which brought in an amount of investment of RMB 660 million

Parts of our targeted poverty alleviation projects and achievements in 2018

Project	Location
 Construction of Factories	Balikun County and Qinghe County, Xinjiang
 Establishment of Cooperative	Nilka County and Toli County, Xinjiang
 "Internet+Poverty Alleviation" Cooperative Construction Project	Balikun County, Xinjiang
 Courtyard Economy Project	Jeminay County and Qinghe County, Xinjiang
 Village Tourism Poverty Alleviation Project	Xishui County, Guizhou, and Taiqian County and Fanxian County, Henan Province

**Case Study:** Safflower Industrial Park Helped Lift Jiagasitai Township, Qapqal Xibe Autonomous County Out of Poverty



PetroChina has been providing designated support to Qapqal Xibe Autonomous County in Xinjiang since 2003 at the request of the State. The climate and soil conditions of Jiagasitai Township are suitable for planting safflower, but the safflower industry still remains at the handiwork workshop stage due to the lack of funds and technology, which has an impact on the income and enthusiasm of the farmers. In 2016, the Company created the Safflower Industrial Park, a poverty alleviation project, in the light of local conditions, and through which an industrial park integrating planting, processing and marketing, together with ancillary projects such as those for agricultural irrigation canals and anti-seepage canals were built up one after another. In September 2017, the Safflower Industrial Park formally commenced operation. In 2018, the Company continued to improve the safflower seed threshing floor and drip irrigation projects in order to promote the rapid development of the safflower seed oil industry in the county. During the year, a total of 2,500 tons of safflower seeds were purchased and the production of safflower oil reached 500 tons, benefiting 800 poor households by generating an increase in income of over RMB 2,000 per household. The project has improved the production and living conditions of the poor population and contributed to poverty alleviation in Qapqal Xibe Autonomous County.

Details	Achievements
Set up a dairy products processing factory and a meat processing factory, realized the localization of food processing in the two counties, and promoted the restructuring of local industries	Helped more than 240 poor households increase their income and created employment for more than 20 impoverished people
Established an animal husbandry cooperative, purchased 100 mares, and provided a livestock fostering service	Increased their income of more than 2,600 people from 643 impoverished households, with a rise in per capita income by RMB 1,000
Established a muskmelon cultivation cooperative in Zhonghu village of Santanghu town to help poor households increase their income	Achieved a total sales volume exceeding 210,000 kilograms by the cooperative with an increase in income of around RMB 1,000 yuan for each cooperative member
Helped more than 250 relocated poor households replace the soil in their courtyard, and plant fruit trees and vegetables	Reduced expenditure by RMB 3,000 to RMB 5,000 per household, and ensured that relocated people stayed
Set up a number of village homestays and village cooperatives to promote the development of local tourism	Achieved growth, removed poverty and generated wealth in joint efforts among the villagers

## WIN-WIN COOPERATION

While providing a stable energy supply for the country's economic development, we insist on the principle of open cooperation for mutual benefit, expanding our joint ventures and cooperation with local capital in the upstream, midstream and downstream sectors. During the process of developing and running our projects, we help nurture local suppliers and contractors, thereby creating jobs, driving the growth of related businesses, and giving back to local people. PetroChina has been cooperating with the government of the Xinjiang Uygur Autonomous Region in the exploration and development, refining and chemicals, oil and gas sales and other fields. In the past five years, the Company has in aggregate invested RMB 224.7 billion in Xinjiang, paid taxes and fees of RMB 220.3 billion to the country, including a tax payment of RMB 77.2 billion to the local government, and added more than 6,200 people to the local workforce.

224.7 billion

In the past five years,  
the Company has on  
aggregate invested  
RMB 224.7 billion in  
Xinjiang.

## CASE STUDY: WORKING TOGETHER TO BUILD A BETTER XINJIANG

Tarim Oilfield, PetroChina's third largest oil and gas field, serves as an important oil and gas production base in China. As the first-line source of natural gas for the First West-East Gas Pipeline, Tarim Oilfield made a significant contribution to the utilization of natural gas in China. The development of the Tarim Oilfield not only bore witness to the spirit of PetroChina taking root in the Taklimakan Desert, but also witnessed the joint contribution and common development between us and millions of people in Southern Xinjiang, turning the local resource advantage into industrial advantage and economic advantage, and also the sense of gain among the local public.

**Carry out Southern Xinjiang Natural Gas Project to provide green and clean energy.** We built the Southern Xinjiang Natural Gas Project, which provided natural gas to more than 4 million residents of five prefectures in Southern Xinjiang at favorable prices with a daily average gas supply of 9.75 million cubic meters and at 16.68 million cubic meters at peak time during winter. In 2018, the Wushi branch line of the Southern Xinjiang Natural Gas Project was completed and passed preliminary acceptance, thereby forming a full-coverage gas network of trunk lines and branch lines for all prefectures in Southern Xinjiang. The Southern Xinjiang Natural Gas Project has enabled all local ethnic groups to use natural gas directly instead of firewood and enter the Clean Age, greatly improving the local energy structure, ecological environment and people's livelihood, and accelerating the related industrial development.

**Clean production to protect the local environment.** The Company vigorously carried out methane recovery, continuously promoted the drilling waste management by means other than land treatment, accelerated withdrawals from environmentally sensitive areas and protected the fragile desert ecology. For more information, please refer to "Response to Climate Change".

**Construct desert highway and prevent desert sandstorm.** The Company made a joint investment with the government to build a 565 km highway across the Taklimakan Desert. The highway has been operating on a toll-free basis since completion of construction and has shortened the distance from Hotan to Korla and Urumqi by around 500 kilometers to 600 kilometers, which brought substantial benefits to the local people. The Company constructed the Desert Highway Shelterbelt on both sides of the highway, planting a large amount of plants resistant to high temperature, strong wind and sand storm, such as Tamarix, Populus

**0.81** million tons

The daily average gas supply to five prefectures in Southern Xinjiang stood at 9.75 million cubic meters, benefiting more than 4 million people and reducing 0.81 million tons of carbon dioxide emissions every year.



**21,000**

The Company made a RMB 17.99 million investment for poverty alleviation in five prefectures including Bazhou, directly benefiting nearly 21,000 impoverished people.



Euphratica, Haloxylon, and Calligonum, and applied drip irrigation to achieve satisfactory results. The shelterbelt project was awarded the “National Environment Friendly Project” by the Ministry of Ecology and Environment. The brackish water irrigation in the desert area, a technique developed during the research and development process of the project, has been widely used in Southern Xinjiang and other parts of the world.

**Promote local industrial development and employment.** The Company integrates its own development with the local sustainable development and actively drives the growth of the local industrial development. In 2018, among the total number of contractors contracted for the Tarim Oilfield, 733 of which were local contractors, generating a contract value up to RMB 17.9 billion, or representing more than 60% of the total contract value, and subsequently offering, directly or indirectly, employment opportunities to 25,000 local people. Throughout the year, we paid taxes and fees of RMB 7.83 billion. We generated tax income for and brought employment opportunities to Xinjiang to the fullest extent as possible. The Company actively carried out mixed ownership reform with the local enterprises to continuously expand the scope and depth of on-site processing of oil and gas resources. The cooperation project in Bazhou for light hydrocarbon deep recovery from condensate gas is the light hydrocarbon recovery plant with the highest processing capacity in China. The project achieved profitability in its first year of operation, and paid RMB 100 million of taxes and fees and made a dividend distribution of RMB 6.5 million to local clienteles.

**Take an active role in public welfare undertakings and carry out poverty alleviation.** The Company contributed RMB 17.99 million for poverty alleviation in seven counties of five prefectures including Bazhou, Aksu and Hotan for infrastructure construction, industry support, etc., directly benefiting nearly 21,000 impoverished people. We took targeted measures in poverty alleviation by strengthening technological guidance and training, and helped local farmers and herdsmen develop animal husbandry and farming according to local conditions. Under our donation-in-kind initiatives, we donated 1,351 tons of fertilizer to 28 villages in five prefectures of Southern Xinjiang, providing nearly 20,000 villagers with fertilizer for spring farming. We also donated more than 27,000 items of clothing, stationery and books to three designated poverty alleviation villages.

60%+

In 2018, the contract value generated by local contractors of Tarim Oilfield accounted for more than 60% of its total contract value, which subsequently offered employment opportunities to 25,000 local people, and resulted in a tax and fee payment of RMB 7.83 billion.



## OVERSEAS COMMUNITY CONSTRUCTION

We respect the cultures and conventions of the host countries in which we operate, and we are committed to establishing long-term and stable cooperative relations with the host countries. We incorporate our development into local socio-economic growth and create socio-economic value to jointly promote the development and prosperity of local communities.

### Enhancing Communication with Local Communities

We have set up environmental protection and community relations coordination departments in many overseas areas and have developed communication channels in different form with local governments, NGOs and community representatives. By holding conferences, issuing reports and paying visits, we strengthen communication and coordination and achieve a win-win situation in cooperation.



PetroChina Indonesian Project was awarded the Green and Environmental Rating Certificate of 2017 by the Indonesian government.



### Community Welfare

We take an active role to help improve the living conditions of local people, give donations to education, healthcare and other public welfare programs to achieve harmonious and mutual development.

<b>In Niger</b> <ul style="list-style-type: none"> <li>• Constructed the Petroleum Museum and completed the replacement of a large amount of displayed items</li> <li>• Renovated the water tower in N'Gouerti, which solved the water issues for local people</li> <li>• Constructed mosques in operating areas for prayer activities of residents from surrounding communities</li> <li>• Donated West African CFA francs 1 million to the Government of Niger on the Tree Planting Day for tree planting and environmental protection</li> <li>• Built 20 wells and 15 classrooms located at the surrounding operating areas of the Company to improve the livelihood of local people</li> </ul>
<b>In Venezuela</b> <ul style="list-style-type: none"> <li>• Provided on a voluntary basis nearly 100 hours of lectures and services to local Confucius Institutes</li> <li>• Despatch staff to support Peace Ark, a hospital ship of China, in providing medical services in Venezuela</li> </ul>
<b>In Peru</b> <ul style="list-style-type: none"> <li>• Provided tables and chairs for community schools and offered shuttle bus service for mature students</li> <li>• Provided on-site medical counselling service for citizens in Negritos</li> <li>• Organized community soccer tournaments for children</li> <li>• Provided breakfasts for children in the community from Monday to Saturday, benefiting 242 pre-school children</li> <li>• Provided production and technology training for community residents</li> </ul>
<b>In Singapore</b> <ul style="list-style-type: none"> <li>• Sponsored and hosted the New Year Banquet for Elderly People for the 14<sup>th</sup> consecutive year, at which 300 senior citizens from eight elderly homes were invited to celebrate the New Year</li> </ul>

## Protect Local Environment

We strongly believe in the importance of striking a balance between business development and environmental protection. Therefore, we strictly comply with the laws and international standards on environmental protection in the countries in which we operate and pay attention to the protection of local ecological environments during operations.

### Case Study: Measures Adopted to Protect the “Mother River” in Iraq by the Al-Ahdab Project

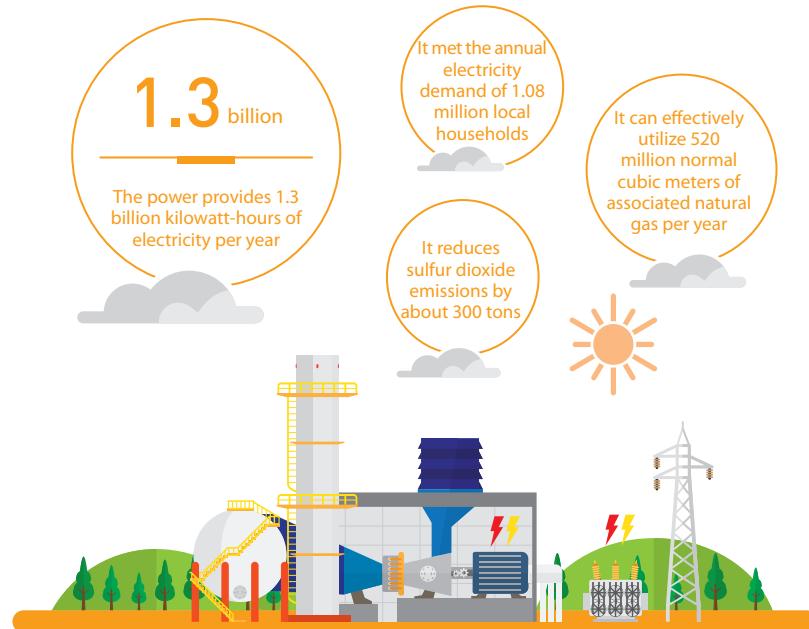
The Tigris River is the “mother river” of the Iraqi people and also the main source of drinking water in Iraq. With the increase in the duration of operation of the oilfield, the pipelines crossing the Tigris River are exposed to an increasing risk of corrosion.

PetroChina's Al-Ahdab Project upholds the principle of “Environmental protection as a top priority”, and has set up an expert group to work on anti-corrosion solutions. In 2018, we completed the insertion of liner pipes inside the pipelines crossing the Tigris River, achieving the goal of double guarantee against leakage and eliminating the hidden environmental hazards.

### Case Study: Effective Utilization of Associated Gas in Rumaila Power Station

Approximately 20 billion normal cubic meters of associated gas was produced by the Rumaila Oilfield every year. In order to rationalize the consumption of energy, PetroChina formed together with BP and South Oil Company of Iraq (SOC) the Rumaila Operating Organization (ROO), and launched the “green oilfield” project to build a power station in phases.

Upon completion of construction in 2018, the power station is capable of generating 1.3 billion kilowatt-hours of electricity on an annual basis to meet the annual electricity consumption demand of 1.08 million local households. It can also effectively utilize 520 million normal cubic meters of associated natural gas every year, resulting in the reduction of sulfur dioxide emission by about 300 tons.



## Promote Localization

We proactively implement strategies relating to local resources and take the procurement of local products and use of local services as the first priority in order to offer local contractors and service providers a chance to provide services for the projects, promoting the development of local small and medium-sized enterprises and creating employment opportunities for the local communities. In Chad, the Company actively brought in local contractors and suppliers and signed 11 contracts involving a relatively considerable contractual amount with local contractors and suppliers in 2018, with a contract value standing at USD 13.74 million. In the same year, the Company was honored with the "Award of Trust and Outstanding Contributions" by the Aktobe State Government of Kazakhstan.

## Tax Payments According to Law

PetroChina strictly complies with the laws and regulations in the countries where it operates, pays taxes to local governments according to law, and duly contributes to the development of local economies. In countries where the Extractive Industries Transparency Initiative (EITI) standard is implemented, such as Iraq and Mongolia, our local companies actively participate in the multi-stakeholder groups and publish information on our projects and tax payments to provide details that is much more than the minimum disclosure requirements prescribed by EITI. We support and follow the Base Erosion and Profit Shifting (BEPS) initiative and the *PetroChina Tax Policy* and pledge to pay tax according to the law in areas where we operate and create value, in order to strive to achieve sustainable development and to duly contribute to socio-economic development.

For more information on  
the *Tax Policy of PetroChina  
Company Limited*, please visit  
the Company's website.



## Protect Indigenous Rights

Before the construction of a project, we conduct assessments of the social and economic impact in relation to the indigenous people, human rights, cultural heritage and involuntary resettlement. We try our best to protect all the legal rights and interests of the indigenous people. We uphold standard operation in land compensation and formulate compensation plans by taking into account the opinions the local interests governments, our partners and the local residents in order to protect the interests of the indigenous people. Specifically, compensation is paid before land use, and the compensation information is released in a timely manner to ensure operational transparency.



▲ Aktobe Project in Kazakhstan sponsors local summer camp activities

## CUSTOMER SERVICE

As a leading producer and supplier of petrochemical products in China, PetroChina continues to optimize its product structure, while upholding the principle of pursuing integrity and excellence in quality control. We endeavor to enhance quality management by focusing on the development and revision of standards, supervision and inspection, and nurturing a culture of quality, in order to provide customers with clean, high-quality and diversified products as well as excellent services.

### Product Quality and Safety

We provide consumers with products that meet legal requirements and standards with a high sense of responsibility. In the process of providing a product, we comprehensively consider its impact on the consumer and ensure product quality and safety.

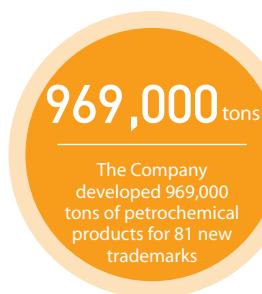
The Company strictly abides by the applicable quality management laws and regulations and has formulated specific management regulations and implementation rules covering the entire enterprise, all the staff and the whole process. In 2018, we strengthened and improved product and service quality standards, developed quality improvement action plans, continuously promoted product quality upgrading and strived to provide consumers with diversified and high-quality products. In 2018, we developed 81 new trademarks of petrochemical products and achieved an output of 969,000 tons and fully realized oil product quality upgrading to the National VI stage.

### Major achievements of quality management work in 2018

Main Work	Content
Quality culture	<ul style="list-style-type: none"> <li>Organized Quality Month Campaign and activities such as "Customer Experience Day", "Lab Open House Day", and "Knowledge Competition for All Staff"</li> <li>Developed the quality improvement action plan to further clarify requirements for product, engineering and service quality improvement</li> </ul>
Quality supervision and inspection	<ul style="list-style-type: none"> <li>Conducted supervision and spot-checks on quality of product and engineering for key engineering construction projects</li> <li>Conducted supervision and spot-checks on quality of National VI standard oil product</li> <li>Strengthened quality supervision of convenience stores selling non-oil products</li> </ul>
Metering verification	<ul style="list-style-type: none"> <li>Carried out appraisal of metering devices such as fuel dispensers</li> <li>Organized calibration of new storage tanks and strictly guarded against the risk of oil quality measurement</li> </ul>

### Consumers' Rights and Interests

We strictly abide by such applicable laws, regulations and international standards relating to advertisements, labelling and privacy of products and services as the *Law of the People's Republic of China on Protection of Consumers' Rights and Interests* and the *United Nations Guidelines for Consumer Protection*. The Company established customer data management rules and acted in strict accordance with the rules in the management and use of customer data, so as to protect security and privacy of consumer data.



**32**

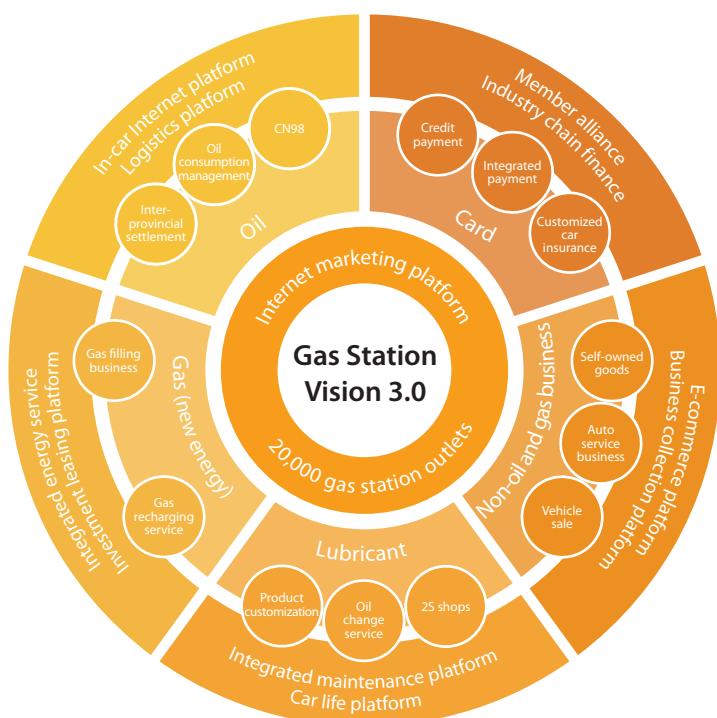
In 2018, the Company's oil product retail network covered 32 provinces (municipalities and autonomous regions) nationwide.

## Value-added Service

With the aim of "customer satisfaction", we strive to improve our service network and its function. In 2018, the Company continued to strengthen online and offline integration and started construction for gas station vision 3.0 to provide consumers with better access to the services.

In 2018, the Company continued to hold the self-drive tour "Travel with PetroChina", inviting self-drive enthusiasts to visit our gas stations and oil depots to learn about the Company's ESG practices and have an in-depth experience of the "smart lifestyle" at our service stations.

According to the 2018 China Customer Satisfaction Index (C-CSI) brand ranking and analysis report released by Chnbrand, a brand rating institute, PetroChina's gas stations scored 71.4 points, ranking first for the second consecutive year.



# INVESTOR FAQS

## SAFETY AND ENVIRONMENTAL PROTECTION



**Does the Company plan to upgrade its production safety measures?**

At PetroChina, we regard safe production as a core value and incorporate this concept into all aspects of our production and operation. We actively promote the building of a long-term work safety system to comprehensively improve safety management. We take further steps in supervision to better implement safety accountability, and by doing so, we have consolidated basic work at grassroots level and kept up a stable and controllable situation of operational safety. We strive to build a dual-prevention mechanism covering risk control and potential hazard treatment, while improving classified risk prevention and control mechanism and carrying out closed-loop hazard management, in order to prevent the evolution of risks and the escalation of hazards. We emphasize management of key links and areas including high-risk operations. Safety and environmental protection technology diagnosis and management assessment are carried out on key subsidiaries, key projects and high-risk areas to ensure that major risks are under control.



**What measures has the Company taken to achieve green and low-carbon development?**

Upholding the development concept of "Clear Waters and Lush Mountains are Invaluable Assets", we fully promote the *Roadmap for Low-carbon Development* and the *Plan for the Upgrading of Pollutant Discharge Standards*, and strive to build a comprehensive green development system covering all areas and the entire industry chain. PetroChina has charted a three-stage low-carbon development roadmap: In the first stage, by 2020, we will reduce CO<sub>2</sub> emissions per unit of industrial value-added by 25% compared with 2015, and strive to stop greenhouse gas emissions from increasing in the refining business. In the second stage, by 2030, we will continue to increase the supply of natural gas and other clean energy, make sure that the Company's domestic natural gas production accounts for 55% of the Company's domestic primary energy, and effectively control the growth in greenhouse gas emissions by expanding natural gas production capacity, with the greenhouse gas emission volume set to reach its peak earlier than expected. In the third stage, by 2050, we will continue to uphold the principle of low-carbon development and reach the international advanced level in low carbon development, thus making significant contributions to China's efforts to honor international accords on climate change and to curtail greenhouse gas emissions. Additionally, we have promoted the development and utilization of renewable energy including geothermal energy and biofuel, conducted trial exploitation of natural gas hydrate resources, and took initiatives to improve our energy mix to promote green and low-carbon development. Meanwhile, we make unremitting efforts to promote the comprehensive conservation and recycling of resources, energy and water conservation, and conservative and intensive use of land, and carry out R&D and application of key technologies and products for energy and water conservation.



**How does the Company reduce its environmental impact during production and operation?**

PetroChina has always been committed to striking a balance between business development and environmental protection.

We strictly abide by the environmental protection laws and international standards of the host countries, protect the local ecological environment and endeavor to minimize the impact of our operations on the environment.

During production, we strictly protect animals and plants in the operational area and timely remove waste from production. In accordance with the *Health, Safety and Environmental Regulations* and relevant operating procedures, we take anti-leakage measures for drilling fluid pools during drilling, restore the landform at the well site after completion, and adopt bio-safety measures to treat drilling cuttings and waste fluid. For details, please refer to the section of "Ecological Protection" of this report.

Meanwhile, during operations, we optimize project design in the early stage to reduce land occupation according to the requirements of careful and intensive use of land. For projects requiring the occupation of cultivated land or forest land or those affecting the land surface due to pipeline laying, we strive for land reclamation through innovative technologies while paying reasonable amounts of compensation.



Would you like to tell us about the waste and pollutant emissions management of the Company during production and sales?

At PetroChina, we strictly monitor waste and pollutant emissions during our production, and strengthen waste management to reduce the discharge of pollutants to the air, land and water.

In the production process, we adopt sealing solutions for oil and gas gathering and transportation, recover oil well casing gas, and adopt measures such as crude oil stabilization or hydrocarbon vapors recovering of oil storage tanks during crude oil processing. Light hydrocarbons generated by crude oil stabilizer are hermetically stored and transported or treated, and the non-condensable gas generated is recovered and utilized by the recycling system. Tank truck loading of crude oil is by way of either "bottom loading" or "surface immersing".

In terms of marketing, we comprehensively promote oil and gas recycling in gas stations and VOCs treatment in refining and chemical enterprises.



How does the Company carry out environmental risk assessment?

We identify and assess environment risks and implement a management model for risk prevention and control focusing on forecasting, early warning and monitoring. We begin the environmental risk management at an early stage, and have established a sound risk management mechanism featuring "tiered management and prevention and control by different levels" to manage and control environmental risks by different levels, grades and fields so as to ensure that such risks are fully under control. We have set up a safe, timely and effective pollution prevention and control system, conducted environmental risk assessment, and adopted necessary prevention and control measures to effectively curb water pollution risks and prevent oil spill accidents. We drafted corresponding control plans against "six major environmental risks", and organized major production and business units to identify potential risks at enterprise-level so that risk management measures can be implemented at every level.



How is PetroChina proceeding with its upgrading of National VI standard gasoline and diesel?

From June 2016, we started to formulate the National VI standard gasoline and diesel upgrading plan and carried out preparatory work and project construction. As of late 2018, all of our refining and chemical enterprises' gasoline and diesel products for vehicles have reached National VI A standard and there are no longer any regular diesel products. As the National VI Standard is one of the most stringent emission standards in the world, National VI oil products feature "cleanliness and environment friendliness, strong power, less carbon deposits and safe use". Therefore, the use of National VI oil products will effectively reduce pollutant emissions from gasoline and diesel vehicles.

## ADDRESSING CLIMATE CHANGE



In order to help prevent methane emissions from flaring, OGCI members confirm that, starting from 2019, they will make contributions to realizing the goal of Zero Routine Flaring by 2030. Will PetroChina contribute to this goal?

Controlling and reducing methane emissions is a common goal of the oil and gas industry, and it is also what PetroChina is striving for. PetroChina is actively involved in its parent company CNPC's undertakings in the OGCI, and contributes its expertise in effective carbon emission reduction to the industry (detailed in the section of "Addressing Climate Change" of this report). At present, we have built oil and gas recovery facilities in our refining and chemical enterprises and oil and gas fields to reduce flaring, recover associated gas and control methane emissions. Thus we have reduced greenhouse gas emissions while achieving economic benefits. We have formulated the *Roadmap for Low-Carbon Development*, and started to establish a carbon emission control system. Specifically we have planned development goals, emission reduction measures and technical routes, with a primary focus on carbon footprint verification, carbon emission reduction and the building of near-zero carbon emission demonstration projects. Additionally, we have strengthened greenhouse gas management and control, and made a whole-process plan to mitigate carbon dioxide and other greenhouse gas emissions from the source, over the production process and during the product use.



What is your planning for new energy development?

We attach great importance to the development of new energy. We have carried out specific planning on new energy business under the 13<sup>th</sup> Five-Year Plan, and specified the need to actively develop new energy and new business forms and to make strategic planning and have technical reserves in place. Firstly, we made clear energy planning and deployment for unconventional oil and gas business, defining unconventional oil and gas as a new growth driver for upstream reserves and output. Secondly, we will proactively explore the development of geothermal energy, natural gas hydrates and other energy sources. Thirdly, we proposed the 2030 target for new energy development, specifying that the revenue of the new energy sector will account for approximately 10% of our total by 2030. Fourthly, we will explore new ways to utilize conventional energy, including proactively boosting the development of the downstream LNG utilization business. In the future, we will provide more clean, high-quality and low-carbon refined products to the public. While speeding up the development of natural gas business, we will promote the deployment and planning for new energy development from a strategic perspective, and steadily implement new energy projects which are closely integrated with main business and already have a certain foundation for development. Attaching great importance to promoting the technological research and utilization of geothermal energy, gas hydrates, biomass energy, energy storage and hydrogen energy, we will strive to foster a new growth pole for green development which centers on oil and gas and is complemented by a variety of other energies.

## CORPORATE GOVERNANCE



What policies has the Company adopted to prevent corruption and bribery?

PetroChina takes a zero-tolerance approach to corruption and always attaches great importance to fighting corruption. We have developed a work system and a work plan for preventing and punishing corrupt practices, and continuously advanced a corruption

disciplinary mechanism. In order to regulate the behavior of employees and the Company, we formulated rules and regulations including the *Disciplinary Regulations for Managements Violations and Non-Compliance*, the *Compliance Management Measures*, and the *Material Supplier Management Measures*.

PetroChina has made consistent and unremitting efforts to fight corruption by strengthening the building of the anti-corruption system and gradually improving the corruption risk prevention mechanism. We take measures at different levels to prevent corruption in the early stage, regularly conduct early warning, monitoring and inspection, promote real-time online supervision of key business areas, and urge all departments to perform their supervisory duties.

In terms of anti-corruption training, we attach great importance to the training of senior managers and employees. Each year, we organize internal training for senior managers to improve the quality of internal monitoring.



**Facing an uncertain external development environment, how does PetroChina achieve high-quality development?**

Our Board of Directors and management adopt the principle of steady development. We give top priority to innovation-driven growth, overall coordination, green and low carbon development, open cooperation, and joint contribution and shared benefits, and strive to enhance our ability to create benefits through assets, promote reform and innovation, manage and control quality and prevent risks. We add value to major oil and gas business to ensure high-quality business development; we strengthen innovation-driven growth to ensure a robust momentum for development; we resolutely eliminate major safety and environmental accidents to ensure a solid foundation for development; and we actively guard against and reduce operational risks to ensure high operational quality.

## OVERSEAS OPERATIONS



**How does PetroChina view the prospects for global energy cooperation?**

Economic globalization is an irreversible trend of our time. On the one hand, a new round of scientific and technological revolutions and industrial revolutions are reshaping the global innovation landscape and the global economic structure. The world is seeing development in international oil cooperation mechanisms and global energy governance, and the global oil markets are heading towards a rebalance. On the other hand, for a long time in the future, fossil energy will continue to serve as the leading energy source, whilst oil and gas will remain dominant in the primary energy consumption mix.

Facing the new situation and new development, we always believe that enhancing foreign cooperation by adapting to the trend of the times is the driving force and cornerstone for achieving mutual benefit and common development. In particular, considering that the Chinese economy will continue to grow at a medium-high speed, high-quality economic development requires the support of a high-quality energy system, and it is a general trend to phase out coal, stabilize oil supplies and increase gas supplies, and vigorously develop renewable energy. China's oil and gas demand will continue to grow steadily. It is expected that oil consumption will still enjoy a growth potential of 150 million tons by 2030, and proportion of natural gas will have a greater space for growth. Driven by policies such as "Beautiful China", "Win the Battle for Blue Skies", supply-side reform and oil and gas industry system reform, once again, we saw

double-digit growth in natural gas consumption in China in 2017, and natural gas consumption is expected to exceed at least 400 billion cubic meters by 2030. As the largest oil and gas producer and supplier in China, PetroChina boasts a solid oil and gas resource base, with newly added petroleum geological reserves exceeding 600 million tons for 12 consecutive years and natural gas geological reserves exceeding 400 billion cubic meters for 11 consecutive years. China's huge domestic oil and gas demand and resource potential will provide more cooperation opportunities for our partners and open up a broad space for cooperation with investors from all over the world.

It is a common mission for energy companies to provide cleaner, more reliable and more affordable high-quality energy to society. Following the principle of extensive consultation, joint contribution and shared benefits, PetroChina will work with counterparts from all over the world to advance international cooperation throughout the oil and gas industry chain, and promote the efficient allocation of domestic and foreign resources as well as the complementary coordination of domestic and foreign markets. We will regard opening-up as the only way for development, so as to achieve win-win development and boost the high-quality growth of the entire industry chain through joint efforts.



**What are PetroChina's deployments and plans for its overseas business?**

Internationalization is one of our four strategies along with resources, markets, and innovation. Currently, the Company manages and operates 51 oil and gas cooperation projects in 20 countries around the world. We will proactively participate in the implementation of China's Belt and Road Initiative, and continue to optimize the layout of five oil and gas cooperation zones in the Central Asia-Russia region, the Middle East, Africa, the Americas and the Asia-Pacific. In particular, we will strive to build the Central Asia-Russia region into the core zone for oil and gas cooperation under the Belt and Road Initiative, to build the Middle East into a high-end cooperation zone to bring the advantages of comprehensive integration into full play, to build Africa into the most influential key cooperation zone for conventional oil and gas business, to build the Americas into a special cooperation zone for efficient development of unconventional and deep-sea oil and gas, and to build the Asia-Pacific into an important cooperation zone for overseas natural gas and integration projects.



**Does the Company have any new plan for overseas acquisitions and joint ventures? If yes, what are the main target areas?**

In the near future, we will continue to follow closely the opportunities for quality projects in the Middle East, Latin America, Central Asia and Russia, and strengthen cooperation with the governments of host countries and international oil companies. At the same time, we will in an orderly manner track and promote the evaluation and negotiation of the extension of existing project contracts. While ensuring economic benefits, we will steadily expand the scale of overseas oil and gas business and continuously optimize structure and quality of overseas oil and gas assets.

## PERFORMANCE STATISTICS

Category	Indicator	2016	2017	2018
Safety	Fatalities caused by accidents (person/100 million working hours)	0.20	0.12	0.14
	Total accident rate (incidents/million working hours)	0.0598	0.0652	0.0414
<b>Energy</b>				
	Total energy consumption ( $10^6$ TCE)	79.90	80.98	84.40
	Total raw coal consumption ( $10^6$ TCE)	11.80	12.21	12.67
	Total crude oil consumption ( $10^6$ TCE)	2.03	1.87	1.86
	Total natural gas consumption ( $10^9$ m <sup>3</sup> )	16.2	16.6	18.1
	Total electricity consumption ( $10^9$ kwh)	46.6	50.3	54.2
	Energy conserved ( $10^6$ TCE)	0.87	0.82	0.81
	Comprehensive energy consumption for producing unit volume of oil and gas equivalent (kg of standard coal/ton)	119	118	122
	Unit energy factor consumption for refining (kg standard oil/[t · factor])	8.07	7.91	7.81
	Comprehensive energy consumption of producing ethylene products (kg of standard coal/ton)	576.3	584	592
Environment	<b>Water</b>			
	Fresh water consumption ( $10^6$ m <sup>3</sup> )	-	791.21	800.05
	Percentage of year-on-year reduction in fresh water consumption (%)	-	2.32	1.11
	Fresh water consumption for processing 1 ton of crude oil (m <sup>3</sup> )	-	0.51	0.51
	Water conserved ( $10^6$ m <sup>3</sup> )	11.32	11.01	10.76
<b>Land Resources</b>				
	Saved land (hectare)	1,135	1,180	1,253
<b>Pollutants and Wastes</b>				
	COD discharged ( $10^3$ tons)	28.4	28.2	26.0*
	SO <sub>2</sub> emissions ( $10^3$ tons)	123.2	109.1	104.0*
	NH <sub>3</sub> -N emissions ( $10^3$ tons)	11.4	10.8	10.0*
	NO <sub>x</sub> emissions ( $10^3$ tons)	112.7	102.9	97.0*

Category	Indicator	2016	2017	2018
Employees	Number of employees (10 <sup>3</sup> )	508.8	494.3	476.2
	<b>Local Hiring and Diversity</b>			
	Percentage of female staff (%)	31.2	30.71	29.82
	Percentage of female administrative staff (%)	7.22	7.32	7.35
	Percentage of ethnic minority employees (%)	6.45	6.5	6.51
	Percentage of non-Chinese nationals in overseas hires (%)	91.1	91.6	92.7
	<b>Workforce by Profession</b>			
	Administrative staff (%)	26.26	26.93	27.71
	Professional and technical staff (%)	13.87	13.91	13.90
	Operating staff (%)	59.87	59.16	58.39
	<b>Workforce by Education</b>			
	Master's degree and above (%)	3.5	3.63	3.83
	Bachelor's degree (%)	30.77	31.87	32.87
	College degree (%)	23.3	23.24	23.16
Public Welfare	Technical secondary school and below (%)	42.43	41.26	40.14
	Employees who took maternity/paternity leave returned to work and kept their posts (%)	100	100	100
	Detection rate of workplace occupational hazards (%)	98	98.5	99.99
	The establishment rate of employee occupational health monitoring archives (%)	100	100	100
	Percentage of employees receiving occupational health checks (%)	98	98.5	99.97
	The training rate of front-line employees (%)	100	100	100
	The training rate of senior skilled personnel and key operation employees (%)	100	100	100
	Taxes (RMB 10 <sup>9</sup> )	317.1	329.6	367.2
	Overseas Tax (RMB 10 <sup>9</sup> )	28.5	25.2	40.1
	Contribution to poverty alleviation (RMB 10 <sup>6</sup> )	252.89	129.31	93.98

Data indicated with \* are internally tested and audited data.

1 BOE = 1 barrel of crude = 6,000 cubic feet of NG = 169.9 cubic meter of NG

1 cubic meter of NG = 35.315 cubic feet of NG

1 metric ton of crude = 7.389 barrels of crude (API = 34)

## OBJECTIVES AND PLANS

In 2019, we will firmly establish and implement new development concepts. To build a top-class exemplary enterprise, we will establish first-class standards for business development, reform and innovation, and the building of a harmonious enterprise, making solid and effective progress in all aspects, and continuously acquire new achievements.

Aspects	2019 Main Objectives	2019 Action Plans
Corporate governance	Improve the modern enterprise system, and promote the building of a modern and international corporate governance system and management and control capability	<ul style="list-style-type: none"> <li>Promote professional restructuring in a consistent and orderly manner, and give play to the role of the market in resource allocation</li> <li>Deepen the reform of the market-oriented mechanism</li> <li>Promote mixed ownership reform and make the Company streamlined and more efficient</li> </ul>
Energy and environment	Consistently enhance energy management and pollution control, improve HSE system building, and ensure stable and improving HSE performance	<ul style="list-style-type: none"> <li>Strictly fulfill HSE responsibility, and strengthen accountability for accidents</li> <li>Continuously reinforce HSE management system audit, and keep improving the operational quality of the HSE management system</li> <li>Strictly carry out category-based risk control, deepen the comprehensive management of hazardous chemicals, and keep enhancing emergency response capabilities</li> <li>Complete the pollution sources census, give priority to key tasks for pollution prevention and treatment, and comprehensively strengthen greenhouse gas control</li> </ul>
Employee development	Build a contingent of high-caliber managers and talents Improve a mechanism for regular growth in staff income Safeguard the personal safety and property safety of employees	<ul style="list-style-type: none"> <li>Intensify the selection and training of young managers and explore the establishment of the "growth archives" system</li> <li>Strengthen Company-wide education and training to improve the overall quality of the workforce</li> <li>Improve the differentiated payroll determination mechanism and performance appraisal mechanism</li> <li>Continue to promote the pilot projects for the professional manager system</li> <li>Carry out engineering and technical position reform in batches and by stages</li> <li>Strive for employment innovation and properly relocate redundant personnel</li> <li>Strengthen overseas risk assessment and early warning, and enhance anti-terrorism emergency response capability</li> </ul>
Social contribution	Earnestly fulfill social responsibilities and actively participate in public welfare undertakings	<ul style="list-style-type: none"> <li>Support the preparations for 2022 Winter Olympics in Beijing</li> <li>Carry out targeted and fixed-point poverty alleviation, and contribute to China's fight against poverty</li> <li>Enhance communication and coordination with local governments, and support and drive local economic and social development</li> </ul>

# GLOSSARY

<b>Liquefied natural gas (LNG)</b>	Liquefied natural gas is produced by dewatering, deacidifying, dehydrating and fractionating the natural gas produced from a gas field and then turning it into liquid under low temperatures and high pressure.
<b>New energy</b>	New energy refers to unconventional energy and renewable energies, mainly including CBM, shale gas, oil sands, oil shale, fuel ethanol, biodiesel, geothermal energy, wind energy, solar energy, hydrogen energy, water-soluble gas and NGH.
<b>Low-carbon economy</b>	A low-carbon economy is an economic development model characterized by low energy consumption, low pollution and low emissions. Its essence is efficient energy consumption, development of clean energy and pursuit of green GDP. The core of this model is the optimization of the industrial structure, low-carbon technology and institutional innovation. A low-carbon economy is developed by means of energy conservation, emissions reduction and the development of clean energy.
<b>Greenhouse gas (GHG)</b>	Greenhouse gases are gases in an atmosphere that absorb solar radiation from the surface and then emit radiation, such as water vapor, CO <sub>2</sub> , and most refrigerants. Their effect is making the Earth's surface warmer, as the "greenhouse effect" sequesters solar radiation and increases the temperature of the air. Greenhouse gases in the Earth's atmosphere mainly include CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC <sub>s</sub> , PFC <sub>s</sub> and SF <sub>6</sub> .
<b>Carbon sequestration</b>	Also refers to carbon sinks. It is the process, activity and mechanism to remove carbon dioxide from the air. Generally, it indicates the capability of forests to absorb and store carbon dioxide. Carbon dioxide in the atmosphere is artificially sequestered in biological forms in plants and the soil through forestation, forest management, and other forest carbon sequestration measures.
<b>HSE management system</b>	HSE is the acronym of the health, safety and environment management system. The HSE management system is an integration of various elements such as organizational structures, mandates, practices, procedures, processes and resources used for health, safety and environment management. The advanced, scientific and systematic integration and operation of these elements create the mutually reinforcing, supportive and interactive and dynamic management system.
<b>Oils (mineral oil)</b>	Compounds of hydrocarbons in wastewater. These include all substances collected by certain solvents, as well as all substances extracted by solvents from acidified samples, which remained fixed during the extracting process.
<b>Chemical oxygen demand (COD)</b>	Chemical oxygen demand is the quantity of strong oxidant consumed to process water samples. It serves as a comprehensive index of pollutants in wastewater and their impact on the environment. A higher COD represents the heavier pollution of reductive substances in the water body.
<b>Major accident</b>	Major accidents refer to accidents that cause deaths above 10 but below 30, or grievous harm to people numbering above 50 but below 100, or economic losses worth above RMB 50 million but below RMB 100 million.
<b>Emergency accidents</b>	Emergency accidents refer to sudden emergent accidents which result in or may result in serious casualties, and/or damage to property, the environment, society and public safety. Emergency accidents faced by PetroChina include four types, namely natural disasters, accidents, public health and social security.

<b>Occupational disease</b>	Diseases caused by exposure to dust, radioactive substances and other toxic and hazardous substances to employees working for enterprises, institutions and private organizations.
<b>Occupational health surveillance</b>	A series of health examinations for professionals in an industry aimed at preventing occupational health threats and improving the health of employees. Occupational health surveillance includes occupational health checks, management of occupational health archives, etc.
<b>Occupational health examination</b>	Physical examination of workers exposed to occupational health threats. The items and frequency of checks should be determined by the category of health threats, and by stipulations in the <i>Items and Frequencies of Occupational Health Checks</i> . These include checks before, during and at the end of a worker's assignment, as well as emergency checks.
<b>Occupational health examination ratio</b>	The annual ratio between the numbers of workers exposed to occupational threats who have taken occupational health checks and the total number of workers who should receive such checks.
<b>Stakeholders</b>	Stakeholders are groups and individuals that are able to impact the accomplishment of corporate goals, or groups and individuals that are impacted by corporate goals, including the natural environment, future generations, and non-human species that are directly or indirectly affected by corporate business activities
<b>Production base</b>	Generally this refers to mining zones recovered, being recovered or to be recovered. It includes several regions covering mines and open mines equipped with utilities like production processes, ground transportation, power supply, telecommunication scheduling, production management and living services.
<b>Community</b>	A community is an administrative jurisdiction within which a group of people live in a fixed geographical area, fulfilling their social functions and creating social norms. It is at the same administrative level as an administrative village.

# GRI, IPIECA/API AND HKEX INDEX

The report consults the reporting elements and performance indicator indices proposed by the Global Reporting Initiative (GRI) and compares the report with indicators listed in Oil and Gas Industry Guidance on Voluntary Sustainability Reporting by the International Petroleum Industry Environment Conservation Association (IPIECA) and American Petroleum Institute (API). Meanwhile, we took reference from the Environmental, Social and Governance (ESG) Reporting Guide issued by the Hong Kong Stock Exchange.

	IPIECA/ API	GRI 2016	ESG
<b>Material Topics</b>		102-47, 103-1	
<b>About Us</b>		102-1, 102-2, 102-3, 102-4, 102-5, 102-6, 102-7, 102-16, 102-45	B6
<b>Message from the Chairman</b>	E1, E2, E3, HS1, SE1, SE4	102-14, 102-15, 102-16, 201-2, 203-2	B1
<b>Corporate Governance</b>	Sustainability Management	102-14, 102-15, 102-32, 102-35, 103-2, 103-3	
	Governance Framework	102-18, 102-19, 102-20, 102-22, 102-23, 102-24, 102-25, 102-26, 102-27, 102-28, 102-30, 102-31, 102-32, 102-33, 102-36, 405-1	
	Management System	SE11, SE12	102-9, 102-10, 102-16, 102-17, 205-2, 414-1
	Communicating and Interacting with Stakeholders	SE11	102-21, 102-29, 102-33, 102-34, 102-40, 102-42, 102-43, 102-44
<b>Energy and the Environment</b>	Energy and the Future	102-15	
	Response to Climate Change	E1, E2, E4, E9	102-12, 201-2, 203-1, 301-2, 302-1, 305-1, 305-2, 305-3, 305-5, 414-2
	Clean Energy	E3	203-1
	Ecological Protection	E4, E5, E6, E8, E9, E10, E11	102-11, 203-1, 302-1, 302-3, 302-4, 303-1, 303-3, 304-1, 304-2, 304-3, 305-6, 305-7
<b>Employee Development</b>	Employee Rights and Interests	SE16	102-8, 102-52, 401-1, 401-3, 405-1, 407-1, 408-1, 409-1
	Health and Safety	HS1, HS2, HS3, HS5, SE10	403-3
	Employee Development	SE17	404-1, 404-2
	Local Hiring and Diversity	SE6, SE15, SE17	202-2, 405-1
<b>Social Contribution</b>	Targeted Poverty Alleviation	SE1, SE4	203-1, 203-2
	Win-win Cooperation	SE4, SE5, SE6, SE7	203-1, 203-2
	Overseas Community Construction	SE1, SE2, SE3, SE4, SE5, SE6, SE7	201-1, 203-1, 203-2, 204-1, 411-1, 413-1
	Customer Service	HS4	416-1, 416-2, 417-1
<b>Investor FAQs</b>	E1, E2, E3, E4, E5, E10, HS5, SE11, SE12	102-12, 102-14, 102-15, 102-29, 201-2, 205-1, 205-2, 302-4, 305-1, 305-2, 305-3, 305-7	A1, A1.1, A3, A3.1, B7, B7.2
<b>Performance Statistics</b>	E1, E2, E3, E4, E6, E7, E8, HS2, HS3, SE4, SE6, SE11, SE15, SE17	201-1, 302-1, 302-3, 302-4, 305-5, 305-6, 305-7, 405-1	A1, A1.1, A1.2, A1.3, A1.5, A2.1, A2.2, A2.4, B1.1, B2.1, B3.1, B8.2
<b>Objectives and Plans</b>			
<b>Appendix</b>		102-54, 102-55	A1, A2, B1, B2, B4, B5, B6
<b>Global Compact and Us</b>		102-13	

	IPIECA/ API	GRI 2016	ESG
<a href="#">Approach to Reporting</a>		102-45, 102-46	
<a href="#">About this Report</a>		101-1, 101-2, 101-3, 102-48, 102-49, 102-50, 102-51, 102-52	
<a href="#">Contacts</a>		102-53	

This report follows the HKEX's ESG Reporting Guide. In compliance with the "comply or explain" provisions, we make the following explanations on the undisclosed indicators A1.4, A2.5 and partly disclosed indicator A1.2:

1. The Company has been focusing on energy efficiency and recycling, actively conducts comprehensive utilization of solid waste, boosts comprehensive utilization efficiency so as to reduce the discharge of pollutant. We have deepened systematic control of the discharge, collection, storage, utilization, transportation, disposal and other phases in order to ensure the management of solid waste complies with laws and regulations.
2. Our products do not apply to A2.5.
3. In accordance with national guidebook and technical standard for the accounting and reporting of greenhouse gas emission, the Company conducts accounting of greenhouse gas emission. To ensure the relevancy, integrity and consistency of emission data, we are proceeding with the verification of relevant data.

## APPENDIX

We strictly complied with applicable laws and regulations on quality management. For this, we established rules and regulations covering all production units, staff and processes relevant to the Company, which including but not limited to:

1	<i>Measures of PetroChina Company Limited for Management of Labor Contract</i>
2	<i>Measures of PetroChina Company Limited for Performance Evaluation of Senior Executives</i>
3	<i>Administration Measures of PetroChina Company Limited on Production Safety and Environmental Protection Accountability System</i>
4	<i>Administrative Measures of PetroChina Company Limited for Supervision and Inspection of Product Quality</i>
5	<i>Administrative Measures of PetroChina Company Limited for Appraisal of Staff Safety and Environmental Performance</i>
6	<i>Regulations on Environmental Protection Management of PetroChina Company Limited</i>
7	<i>Measures for Environmental Monitoring and Environmental Information Management of PetroChina Company Limited</i>
8	<i>Regulations of PetroChina Company Limited on Environmental Protection Concerning Project Acquisition</i>
9	<i>Administrative Measures of PetroChina Company Limited for Energy and Water Conservation</i>
10	<i>Regulations of PetroChina Company Limited on Quality Supervision of Procured Materials</i>
11	<i>Regulations of PetroChina Company Limited on Detection of Occupational Hazards at Workplace</i>
12	<i>Regulations of PetroChina Company Limited on Occupational Health Surveillance</i>
13	<i>Measures of PetroChina Company Limited for Material Supplier Management</i>
14	<i>Measures of PetroChina Company Limited for Tender Management</i>
15	<i>Measures of PetroChina Company Limited for Service Trademark Management</i>
16	<i>Measures of PetroChina Company Limited for Land Management</i>
17	<i>Regulations of PetroChina Company Limited on the Management of Industrial Water of Refining Enterprises</i>

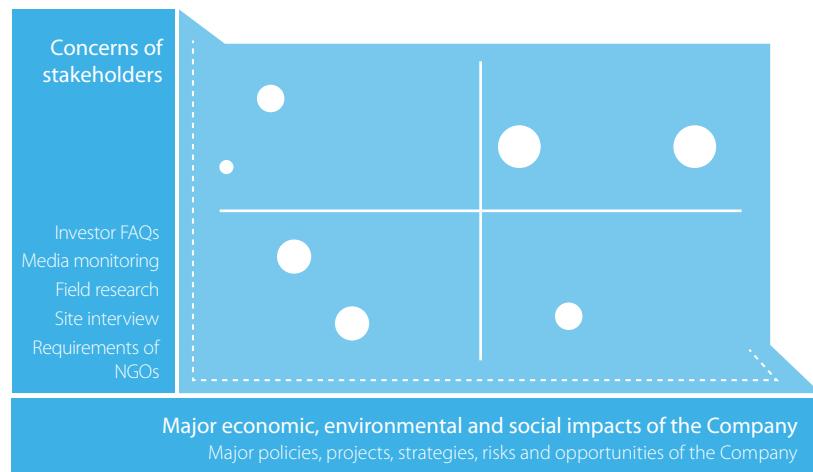
## GLOBAL COMPACT AND US

The Global Compact is a global framework initiated and advocated by the United Nations aimed at the promotion of sustainable development and the collective improvement of social well-being through responsible and innovative business practices. As a member of the UN Global Compact, we are committed to observing and supporting the Ten Principles advocated by the Global Compact in the fields of human rights, labor rights, environment protection and anti-corruption, using the Ten Principles to guide our practices in fulfilling social responsibilities. We will continue to disclose our progress in keeping with the Ten Principles in the Global Compact in our annual report.

	Ten Principles in the Global Compact	Corresponding Sections Herein
Human Rights	1. Businesses should support and respect the protection of internationally proclaimed human rights	1.1 Sustainability Management; 3.1 Employee Rights and Interests; 4.3 Overseas Community Construction
	2. Make sure that they are not complicit in human rights abuses	3.1 Employee Rights and Interests
Labour Rights	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	3.1 Employee Rights and Interests
	4. The elimination of all forms of forced and compulsory labour	3.1 Employee Rights and Interests
Environment Protection	5. The effective abolition of child labour	3.1 Employee Rights and Interests
	6. The elimination of discrimination in respect of employment and occupation	3.1 Employee Rights and Interests
Anti-Corruption	7. Businesses should support a precautionary approach to environmental challenges	2.1 Energy and the Future; 2.2 Response to Climate Change
	8. Undertake initiatives to promote greater environmental responsibility	Message from the Chairman; 2.2 Response to Climate Change; 2.3 Clean Energy; 2.4 Ecological Protection; Investor FAQs
Anti-Corruption	9. Encourage the development and diffusion of environmentally friendly technologies	2.2 Response to Climate Change; 2.3 Clean Energy; Investor FAQs
	10. Businesses should work against corruption of all kinds, including extortion and bribery	Corporate Governance; Investor FAQs

## APPROACH TO REPORTING

This report focuses on major international and domestic events related to the sustainable development of the Company and its subsidiaries.



## Content Selection Process

The contents in this report were selected and disclosed based on their substantiality, integrity and balance principle, taking into account the concerns of stakeholders and the Company's great influence on the society. They exert substantial impact on the Company's sustainable development.

1. The Company pays close attention to the views of its stakeholders, and collects their comments through community visits, periodical reports, field study and online communication. It makes suggestions on the topics of the report by taking into account stakeholders major concerns.
2. We assess the Company's sustainable development strategy and cover major social, economic and environmental events related to our strategies, risks and opportunities.
3. We refer to UN SDGs and the social responsibility initiatives and standards proposed by NGOs for topic selection. These include ISO 26000 (Guidance on Social Responsibility).
4. Topics are selected based on the comprehensive assessment of stakeholders concerns and their impact on the Company's strategies. The time span and the scope of impact for each specific topic are clearly defined to ensure the accuracy of the information disclosed.



## ABOUT THIS REPORT

This report illustrates activities the Company undertook in 2018 pursuant to its ongoing commitment to advance the community, the economy and the environment. All information disclosed in this report was sourced from PetroChina's official documents and statistics as well as from statistics gathered from the Company's affiliated enterprises. It takes into account the Company's development priorities and stakeholder concerns. This report has been reviewed in accordance with the Company's *Rules for Information Disclosure Control and Disclosure Procedures*. For continuity and comparability purposes, this report provides explanations on past and future initiatives on certain issues.

This report is formulated according to the key principles of accuracy, transparency and consistency. We took reference from the *Guideline on Preparing the Report on Performance of Corporate Social Responsibility* issued by the Shanghai Stock Exchange and the *Environmental, Social and Governance (ESG) Reporting Guide* issued by the Hong Kong Stock Exchange. Furthermore, we continued to consult the *Sustainability Reporting Guideline (Version 2016)* released by the Global Reporting Initiative (GRI) and the *Oil and Gas Industry Guidance on Voluntary Sustainability (2015)* co-published by the International Petroleum Industry Environmental Conservation Association (IPIECA) and the American Petroleum Institute (API). As a member of the United Nations Global Compact (UNGC), we report our progress in compliance with the Ten Principles and Sustainable Development Goals and will submit the report to be posted on UNGCs website (<http://www.unglobalcompact.org>).

This report includes a set of Forward-Looking Statements. Excluding historical facts, all events that may or will occur (including, but not limited to, premise, objectives, estimation and business plans) and descriptions of such events are categorized as Forward-Looking Statements. Due to the presence of external uncertainties, actual outcomes or the future climate may differ from those expressed in the Forward-Looking Statements. As the Forward-Looking Statements were made prior to December 31, 2018, PetroChina holds no responsibility or liability for any modifications made subsequent to the said date.

Thank you for taking the time to read this report. We welcome any comments and suggestions you may have as we believe that your feedback can improve our performance. This report is published, along with the Company's Annual Report 2018 in March 2019, in simplified Chinese, traditional Chinese and English. In the case of any discrepancy, the version in simplified Chinese shall act as the lead publication.

The Board and all the Company's directors hereby certify that there are no misrepresentations, misleading statements or material omissions in this report. Furthermore, we jointly and severally accept full responsibility for the truthfulness, accuracy and completeness of this report.



You can log on to our website [www.petrochina.com.cn](http://www.petrochina.com.cn) or scan the QR code to browse or download the electronic version of this report and learn more about us.





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