PETROCHINA CO LTD
Form 20-F
April 29, 2019
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

or

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018.

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

or

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report __________

For the transition period from __________ to __________

Commission File Number 1-15006

(Exact name of Registrant as specified in its charter)

PetroChina Company Limited

(Translation of Registrant s name into English)

The People s Republic of China

(Jurisdiction of incorporation or organization)

9 Dongzhimen North Street

Dongcheng District, Beijing 100007

The People s Republic of China,

(Address of principal executive offices)

Wu Enlai

Telephone number: 8610 59982622

Facsimile number: 8610 62099557

Email address: zxy@petrochina.com.cn

Address: 9 Dongzhimen North Street, Dongcheng District, Beijing 100007, The People s Republic of China

(Name, telephone, e-mail and/or facsimile number and address of registrant s contact person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
American Depositary Shares, each representing 100	PTR	
H Shares, par value RMB1.00 per share		New York Stock Exchange, Inc
*H Shares, par value RMB1.00 per share		.New York Stock Exchange, Inc.**

Securities registered or to be registered pursuant to Section 12(g) of the Act.

None

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None

(Title of Class)

Indicate the number of outstanding shares of each of the issuer s classes of capital or common stock as of the close of the period covered by the annual report:

A Shares, par value RMB1.00 per share***	161,922,077,818(1)
H Shares, par value RMB1.00 per share	21,098,900,000****

(1) Includes 148,010,665,536 A Shares held by CNPC and 13,911,412,282 A Shares held by the public shareholders.
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Note Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) or the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of large accelerated filer, accelerated filer, and emerging growth company in Rule 12b-2 of the Exchange Act:

Large Accelerated Filer Accelerated Filer Non-Accelerated Filer Emerging Growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

The term new or revised financial accounting standard refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If Other has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PRECEDING FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes No

* PetroChina s H Shares are listed and traded on The Stock Exchange of Hong Kong Limited.

** Not for trading, but only in connection with the registration of American Depository Shares.

*** PetroChina s A Shares became listed on the Shanghai Stock Exchange on November 5, 2007.

**** Includes 778,325,000 H Shares represented by American Depositary Shares.

Table of Contents

Table of Contents

Table of Contents

Table of Contents

CERTAIN TERMS AND CONVENTIONS

Conventions Which Apply to this Annual Report

Unless the context otherwise requires, references in this annual report to:

CNPC or CNPC group are to our parent, China National Petroleum Corporation and its affiliates and subsidiaries, excluding PetroChina, its subsidiaries and its interests in long-term investments, and where the context refers to any time prior to the establishment of CNPC, those entities and businesses which were contributed to CNPC upon its establishment.

PetroChina , we , our , our company , the Company and us are to: PetroChina Company Limited, a joi company incorporated in the People s Republic of China with limited liability and its subsidiaries and branch companies.

PRC or China are to the People s Republic of China, but does not apply to its Hong Kong, Macau and Taiwan for purposes of this annual report.

We publish our consolidated financial statements in Renminbi or RMB. In this annual report, IFRS refers to International Financial Reporting Standards as issued by the International Accounting Standards Board.

Conversion Table

1 barrel-of-oil equivalent	= 1 barrel of crude oil	= 6,000 cubic feet of natural gas
1 cubic meter	= 35.315 cubic feet	
1 ton of crude oil	= 1 metric ton of crude oil	= 7.389 barrels of crude oil (assuming an API gravity of 34 degrees)

Certain Oil and Gas Terms

Unless the context indicates otherwise, the following terms have the meanings shown below:

acreage	The total area, expressed in acres, over which an entity has interests in exploration or production. Net acreage is the entity s interest, expressed in acres, in the relevant exploration or production area.
condensate	Light hydrocarbon substances produced with natural gas that condense into liquid at normal temperatures and pressures associated with surface production equipment.

crude oil	Crude oil, including condensate and natural gas liquids.
developed reserves	Under the reserves rules of the Securities and Exchange Commission, or SEC, developed reserves are reserves of any category that can be expected to be recovered:
	(i) through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and
	(ii) through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

Table of Contents

development cost	For a given period, costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering and storing the oil and gas.
finding cost	For a given period, costs incurred in identifying areas that may warrant examination and in examining specific areas that are considered to have prospects of containing oil and gas reserves, including costs of drilling exploratory wells and exploratory-type test wells. Finding cost is also known as exploration cost.
lifting cost	For a given period, costs incurred to operate and maintain wells and related equipment and facilities, including applicable operating costs of support equipment and facilities and other costs of operating and maintaining those wells and related equipment and facilities. Lifting cost is also known as production cost.
natural gas liquids	Hydrocarbons that can be extracted in liquid form during natural gas production. Ethane and pentanes are the predominant components, with other heavier hydrocarbons also present in limited quantities.
offshore	Areas under water with a depth of five meters or greater.
onshore	Areas of land and areas under water with a depth of less than five meters.
primary distillation capacity	At a given point in time, the maximum volume of crude oil a refinery is able to process in its basic distilling units.
proved reserves	Under the SEC reserves rules, proved reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.
	(i) The area of the reservoir considered as proved includes:

(A) The area identified by drilling and limited by fluid contacts, if any, and (B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.

(ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or

	performance data and reliable technology establishes a lower contact with reasonable certainty.
	(iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.
	(iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:
	(A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an analogous reservoir, or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and (B) The project has been approved for development by all necessary parties and entities, including governmental entities.
	(v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.
reserve-to-production ratio	For any given well, field or country, the ratio of proved reserves to annual production of crude oil or, with respect to natural gas, to wellhead production excluding flared gas.
sales gas	Marketable production of gas on an as sold basis, excluding flared gas, injected gas and gas consumed in operations.
undeveloped reserves	Under the SEC reserves rules, undeveloped reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is

required for recompletion.

(i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.

	(ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.
	(iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, or by other evidence using reliable technology establishing reasonable certainty.
water cut	For a given oil region, the percentage that water constitutes of all fluids extracted from all wells in that region.

References to:

BOE is to barrels-of-oil equivalent,

Mcf is to thousand cubic feet, and

Bcf is to billion cubic feet.

Table of Contents

FORWARD-LOOKING STATEMENTS

This annual report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. These forward-looking statements are, by their nature, subject to significant risks and uncertainties. These forward-looking statements include, without limitation, statements relating to:

- the amounts and nature of future exploration, development and other capital expenditures;
- future prices and demand for crude oil, natural gas, refined products and chemical products;
- development projects;
- exploration prospects;
- reserves potential;
- production of oil and gas and refined and chemical products;
- development and drilling potential;
- expansion and other development trends of the oil and gas industry;
- the planned development of our natural gas operations;
- the planned expansion of our refined product marketing network;
- the planned expansion of our natural gas infrastructure;
- the anticipated benefit from the acquisition of certain overseas assets from CNPC, our parent company;
- the plan to continue to pursue attractive business opportunities outside China;

our future overall business development and economic performance;

our anticipated financial and operating information regarding, and the future development and economic performance of, our business;

our anticipated market risk exposure arising from future changes in interest rates, foreign exchange rates and commodity prices; and

other prospects of our business and operations.

The words anticipate , believe , could , estimate , expect , intend , may , plan , seek , will and would expressions, as they related to us, are intended to identify a number of these forward-looking statements.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that will occur in the future and are beyond our control. The forward-looking statements reflect our current views with respect to future events and are not a guarantee of future performance. Actual results may differ materially from information contained in the forward-looking statements as a result of a number of factors, including, without limitation, the risk factors set forth in this annual report and the following:

fluctuations in crude oil and natural gas prices;

failure to achieve continued exploration success;

failures or delays in achieving production from development projects;

continued availability of capital and financing;

acquisitions and other business opportunities that we may pursue;

Table of Contents

general economic, market and business conditions, including volatility in interest rates, changes in foreign exchange rates and volatility in commodity markets;

liability for remedial actions under environmental regulations;

the actions of competitors;

wars and acts of terrorism or sabotage;

changes in policies, laws or regulations of the PRC, including changes in applicable tax rates;

the other changes in global economic and political conditions affecting the production, supply and demand and pricing of crude oil, refined products, petrochemical products and natural gas; and

the other risk factors discussed in this annual report, and other factors beyond our control.

You should not place undue reliance on any forward-looking statements.

Table of Contents

PART I

Item 1 *IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISORS*

Not applicable. However, see Item 6 Directors, Senior Management and Employees Directors, Senior Management and Supervisors and Item 16C Principal Accountant Fees and Services .

Item 2 *OFFER STATISTICS AND EXPECTED TIMETABLE*

Not applicable.

Item 3 *KEY INFORMATION*

Table of Contents

Selected Financial Data

Historical Financial Information

You should read the selected historical financial data set forth below in conjunction with our consolidated financial statements and the notes and Item 5 Operating and Financial Review and Prospects included elsewhere in this annual report. The selected consolidated statement of comprehensive income (except for ADS data) and cash flow data for the years ended December 31, 2016, 2017 and 2018 and the selected consolidated statement of financial position data as of December 31, 2017 and 2018 set forth below are derived from our audited consolidated financial statements included elsewhere in this annual report. The selected consolidated statement of comprehensive income data (except for ADS data) and cash flow data for the years ended December 31, 2014 and 2015 and the selected consolidated statement of financial position data as of December 31, 2014, 2015 and 2016 set forth below are derived from our audited financial statements not included in this annual report. Our consolidated financial statements were prepared in accordance with IFRS as issued by the International Accounting Standards Board. The financial information included in this section may not necessarily reflect our results of operations, financial position and cash flows in the future.

	As of or for the Year Ended December 31,				
	2014	2015	2016	2017	2018
	RMB	RMB	RMB	RMB	RMB
	(In millions, except for per share, per ADS data and percentages)				
Consolidated Statement of Comprehensive Income Data					
Revenue	2,282,962	1,725,428	1,616,903	2,015,890	2,353,588
Total operating expenses	(2,113,129)	(1,646,176)	(1,556,268)	(1,948,168)	(2,232,591)
Profit from operations	169,833	79,252	60,635	67,722	120,997
Profit before income tax expense	156,759	57,815	45,140	53,089	115,206
Income tax expense	(37,731)	(15,726)	(15,768)	(16,296)	(42,790)
Profit for the year	119,028	42,089	29,372	36,793	72,416
Attributable to:					
Owners of the Company	107,172	35,517	7,857	22,798	52,591
Non-controlling interests	11,856	6,572	21,515	13,995	19,825
Basic and diluted earnings per share attributable to owners of the Company(1)	0.59	0.19	0.04	0.12	0.29
Basic and diluted net earnings per ADS(2)	58.56	19. 41	4.29	12.46	28.73
Consolidated Statement of Financial Position Data					
Total current assets	391,308	349,344	381,665	425,162	433,128
Total non-current assets	2,014,165	2,044,500	2,014,986	1,979,450	1,999,138
Total assets	2,405,473	2,393,844	2,396,651	2,404,612	2,432,266
Total current liabilities	579,829	471,407	499,263	576,667	586,386
Total non-current liabilities	507,863	578,403	524,653	446,626	435,222
Total liabilities	1,087,692	1,049,810	1,023,916	1,023,293	1,021,608
Equity attributable to owners of the Company	1,175,894	1,179,716	1,189,024	1,193,520	1,214,286
Non-controlling interests	141,887	164,318	183,711	187,799	196,372
Total equity	1,317,781	1,344,034	1,372,735	1,381,319	1,410,658

Other Financial Data					
Dividend declared and proposed per share	0.26	0.09	0.06	0.13	0.18
Dividend declared and proposed per ADS	26.35	8.73	5.93	13.00	17.88
Capital expenditures	291,729	202,238	172,386	216,227	255,974
Return on net assets (%)[(3)]	9.1	3.0	0.7	1.9	4.3
Consolidated Statement of Cash Flow Data					
Net cash flows from operating activities	356,477	261,312	265,179	366,655	351,565
Net cash flows used for investing activities	(290,838)	(215,879)	(175,887)	(243,546)	(267,732)
Net cash flows used for financing activities	(44,312)	(45,439)	(67,007)	(94,725)	(123,515)

Table of Contents

(1) As of December 31, 2014, 2015, 2016, 2017 and 2018, respectively, basic and diluted earnings per share were calculated by dividing the profit attributable to owners of the Company by 183,021 million, the total number of shares outstanding in each of these financial years.

(2) Each ADS represents 100 H Shares. The basic and diluted earnings per ADS were calculated with the same method as that used for the calculation of the basic and diluted earnings per share.

(3) Return on net assets is calculated as Profit for the year attributable to owners of the Company divided by Equity attributable to owners of the Company .

Table of Contents

Risk Factors

Our business is primarily subject to various changing competitive, economic and social conditions. Such changing conditions entail certain risks, which are described below.

Risks Related to Macro Economic Conditions

Our operations may be adversely affected by international and domestic economic conditions. As the oil and gas industry is sensitive to macro-economic trends, oil and gas prices tend to fluctuate along with changes in macro-economic conditions. We may experience pricing pressure on our refined products in recessionary periods, which would have an adverse effect on our profitability**.** Changes in macro-economic conditions can affect the demand for certain of our products. These factors may also lead to intensified competition for market share, with consequential potential adverse effects on sales volumes. Inflation may lead to increase in our operating costs. Notwithstanding the measures taken by the PRC government to control inflation, China may experience an increase in inflation in the future and our operating costs may become higher than anticipated. The financial and economic situation may also have a negative impact on third parties with whom we do, or may do, business. Any of these factors may adversely affect our financial condition, results of operations and liquidity.

Risks Related to Competition

The oil, gas and petrochemicals industries are highly competitive. There is strong competition, both within the oil and gas industry and with other industries, in supplying the fuel needs of commercial, industrial and residential markets. In recent years, with the intensive reform of China s petroleum, refining and chemical, natural gas, LNG, pipelines and refined oils sales industries, we have been facing increasingly intense competition from privately-owned companies, foreign-invested enterprises and other state-owned enterprises that recently entered the refinery, chemical, sales, and oil and gas service sectors. In addition, the rapid development of unconventional oil and gas resources, new energy sources and new products also poses competition with the conventional energy and petrochemical industries. Competition puts pressure on product prices, affects oil products marketing and requires continuous management focus on identifying new trends, reducing unit costs and improving efficiency. The implementation of our growth strategy requires continued technological advances and innovation, including advances in exploration, production, refining, petrochemicals manufacturing technology and advances in technology related to energy usage. Our performance could be impeded if competitors developed or acquired intellectual property rights to technology that we required or if our innovation lagged the industry.

The Eastern and Southern regions of China have a higher demand for refined products and chemical products than the Western and Northern regions. Although we have strived to increase our refinery capacity in the Southern regions of China over recent years, most of our refineries and chemical plants are located in the Northeastern and Northwestern regions of China. We incur relatively higher transportation costs for delivery of our refined products and chemical products to certain areas of the Eastern and Southern regions from our refineries and chemical plants in Western and Northern China. We face strong competition from other traditional domestic oil companies, local independent refineries and other competitors. As a result, we expect that we will continue to encounter difficulty in increasing our sales of refined products and chemical products in these regions.

Risks Related to Outbound Investments and Trading

We are subject to various political, legal and regulatory environments in foreign developing countries where we operate, some of which are known to be unstable and differ in certain significant respects from those prevailing in developed countries. The main factors affecting our outbound investments include unstable political situations, unstable tax policies and unstable regulatory regimes. CNPC, our controlling shareholder, and its affiliates and subsidiaries may choose to undertake, without our involvement, overseas investments, operations and trading in the oil and gas industry, including certain exploration and production of oil and gas, refining, transportation, trading, engineering construction and technical services, operations of pipelines and liquefied natural gas, or LNG projects, or other business activities in certain countries or with certain entities that are subject to U.S. sanctions, including Iran, Cuba, Myanmar, Russia and Venezuela.

In 2018, the United States withdrew from the Joint Comprehensive Plan of Action (JCPOA) and reimposed certain sanctions against Iran, which were conditionally lifted in 2015 following entry into the JCPOA. These reimposed sanctions have implications for non-U.S. companies, including requiring foreign companies to cease participation in projects in certain sectors of Iran (including the energy sector), and, except for eight countries and regions (including China) which were granted a Significant Reduction Exception (SRE), prohibiting or restricting oil imports from Iran. Pursuant to section 13(r) to the U.S. Securities Exchange Act of 1934, reporting issuers are required to disclose whether they or any of their affiliates have knowingly engaged in certain activities, transactions, or dealings related to Iran during the reporting period, including activities not prohibited by U.S. or other law. During the reporting period, our controlling shareholder, CNPC, held indirect interests in certain oil and gas development projects in Iran, namely, (i) the MIS oil fields in which CNPC obtained a 75% interest in 2005, (ii) the North Azadegan oilfield, in which CNPC obtained a 100% interest in 2009 and (iii) the South Pars gas field project, in which CNPC obtained a 100% interest in 2009. After temporarily ceasing participation in the South Pars gas field project in 2012, CNPC in July 2017 regained a 30% investment and operating interest in the project under a new Iran Petroleum Contract (the IPC), in which Total S.A. (Total) held a 50.01% interest. In November 2018, Total withdrew from the project, and CNPC took over its interest pursuant to the IPC. Operation with respect to the South Pars project is currently suspended. In 2018, the MIS oilfield and the North Azadgan oilfield were in production, and CNPC extracted oil in order to recover its investment as per the project agreements. After the U.S. reimposed the sanctions, CNPC has been providing minimum support and services to the two oilfields pursuant to the SRE issued to China. In 2018, CNPC transported back to China approximately 2.3 million tons of crude oil that it extracted from the two oilfields, of which approximately 1.1 million tons were resold to our company s refineries. In 2018, crude oil that we processed from the foregoing source accounted for 0.7% of the total oil processed by our refineries and contributed 0.1% of our total revenue.

Since July 2014, the United States has adopted economic sanctions against certain Russian persons and entities, including various entities operating in the financial, energy and defense sectors, such as Rosneft, Gazprom, Transneft, OAO Novatek and Yamal LNG. These sanctions prohibit U.S. persons from transacting in, providing financing for or otherwise dealing in debt issuance by certain of these entities, or restrict exports and transfer of technologies to certain of these entities. CNPC had certain pre-existing trading and investment relationships with some of these sanctioned Russian entities. For example, CNPC entered into a long-term agreement with each of Rosneft and Transneft to import crude oil from Russia in 2009, a long-term agreement with Rosneft to import crude oil from Russia in June 2013 and a long-term agreement with Gazprom to import natural gas from Russia in May 2014. CNPC has resold, and will for the foreseeable future resell, all or a substantial portion of the imported crude oil from Rosneft and Transneft under the crude oil agreements to us. CNPC also indirectly holds 20% equity interest in OAO Yamal LNG, which is a subsidiary of OAO Novatek, another sanctioned Russian entity. In May 2014, we entered into a long-term LNG import agreement with a subsidiary of OAO Yamal LNG to import LNG from Russia.

In August 2017, the United States imposed economic sanctions against the Government of Venezuela and certain state-owned entities, including Petroleos de Venezuela, S.A. (PdVSA). These sanctions prohibit U.S. persons from transacting in, providing financing for or otherwise dealing in new debt issued by these entities on or after August 25, 2017, with certain exceptions for short-term debt. Neither CNPC nor PetroChina purchased such new debt securities issued by the Government of Venezuela or by PdVSA, nor did they provide any assistance to third parties in this regard. CNPC has longstanding trading and investment activities in Venezuela. In 2018, based on certain pre-existing contract obligations, we purchased

Table of Contents

products from PdVSA for resale which contributed 0.06% of our total revenue in 2018. In 2008, CNPC Exploration and Development Company Limited (CNPC E&D), a joint venture held as to 50% by us and 50% by a wholly-owned subsidiary of CNPC, acquired 40% stake in the Sinovensa block located in Carabobo, Monagas State, Venezuela. The other 60% stake of the block is held by PdVSA, which also serves as the operator of the block. The block produces and sells heavy oil. For the year ended December 31, 2018, the share of profit generated from the block accounted for approximately 1.5% of our total profit. CNPC E&D currently does not plan to discontinue the business or dispose of the interest in this block.

We closely monitor the possible impacts of U.S. sanctions against the countries and entities which have trading or investment relationships with CNPC or us. We do not believe that our activities, nor those of CNPC, with these entities are in violation of applicable economic sanctions administered by the United States. However, we cannot assure you that current or future regulations or developments related to economic sanctions will not have a material adverse impact on our business or reputation. Certain U.S. based investors may not wish to invest and have proposed or adopted divestment or similar initiatives regarding investments in companies that do business with countries and entities that are subject to U.S. sanctions. These investors may not wish for CNPC or us to make investments or conduct activities in the countries or with the entities that are the subject of U.S. sanctions and may divest their investment in us because of our relationship with CNPC and its investments and activities in those countries or with those entities that are the subject of U.S. sanctions. As a result, the trading prices of our ADSs may be adversely affected.

In July 2012, the U.S. Treasury Department s Office of Foreign Assets Control, OFAC, added Bank of Kunlun Co., Ltd., or Kunlun Bank, an affiliate of our company due to common control by CNPC, to its List of Foreign Financial Institutions Subject to Part 561 pursuant to the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010. OFAC reported that Kunlun Bank provided financial services to at least six Iranian banks that were on OFAC s sanctions list during 2012. These financial services included holding accounts, making transfers and paying letters of credit on behalf of the designated banks. In 2018, Kunlun Bank has discontinued the business activities which are subject to U.S. sanctions. Our company has no involvement in or control over such activities of Kunlun Bank or CNPC and CNPC subsidiaries and affiliates, and we have never received any revenue or profit derived from these activities.

Risks Related to Government Regulation

Our operations, like those of other PRC oil and gas companies, are subject to extensive regulations and control by the PRC government. These regulations and control affect many material aspects of our operations, such as exploration and production licensing, industry-specific and product-specific taxes and fees and environmental and safety standards. As a result, we may face significant constraints on our ability to implement our business strategies, to develop or expand our business operations or to maximize our profitability. Our business may also be affected by future changes in certain policies of the PRC government with respect to the oil and gas industry.

Currently, the PRC government must approve the construction and major renovation of significant refining and petrochemical facilities as well as the construction of significant crude oil, natural gas and refined product pipelines and storage facilities. We presently have several significant projects pending approval from the relevant government authorities and will need approvals from the relevant government authorities in connection with several other significant projects. We do not have control over the timing and outcome of the final project approvals.

Because PRC laws, regulations and legal requirements dealing with economic matters continue to evolve, and because of the limited volume of published judicial interpretations and the non-binding nature of prior court decisions, the interpretation and enforcement of these laws, regulations and legal requirements involve some uncertainty. Because the PRC Company Law is different in certain important aspects from company laws in the United States, Hong Kong and other common law jurisdictions, and because the PRC securities

Table of Contents

laws and regulations are still at a stage of development, you may not enjoy the shareholders protections that you may be entitled to in other jurisdictions.

Risks Related to Controlling Shareholder

As of December 31, 2018, CNPC beneficially owned approximately 81.03% of our share capital. This ownership percentage enables CNPC to elect our entire board of directors without the concurrence of any of our other shareholders. Accordingly, CNPC is in a position to:

- control our policies and management affairs;
- subject to applicable PRC laws and regulations and provisions of our articles of association, affect the timing and amount of dividend payments and adopt amendments to certain of the provisions of our articles of association; and
- otherwise determine the outcome of most corporate actions and, subject to the regulatory requirements of the jurisdictions in which our shares are listed, cause our company to effect corporate transactions without the approval of minority shareholders.

CNPC s interests may sometimes conflict with those of some or all of our minority shareholders. We cannot assure you that CNPC, as our controlling shareholder, will always vote its shares in a way that benefits our minority shareholders.

In addition to its relationship with us as our controlling shareholder, CNPC by itself or through its affiliates also provides us with certain services and products necessary for our business activities, such as construction and technical services, production services, materials supply services, social services and financial services. The interests of CNPC and its affiliates as providers of these services and products to us may conflict with our interests.

Risks Related to Pricing and Exchange Rate

Our operations are affected by the volatility of prices for crude oil, refined products and natural gas. We set our crude oil median prices monthly based on the international trading prices for crude oil.

In recent years, international prices for crude oil have fluctuated substantially in response to changes in global and regional economy, politics and supply and demand for crude oil. We do not have, and will not have, control over factors affecting international prices for crude oil. Fluctuations in crude oil prices have a significant impact in our results of operations. A decline in crude oil prices may reduce revenues from, and may result in a loss in, our exploration and production segment. Further, if crude oil prices remain at a low level for a prolonged period, our company has to determine and estimate whether our oil and gas assets may suffer impairment and, if so, the amount of the impairment. An increase in crude oil prices may, however, increase the production costs of refined products, reduce demand for our products and affect our operating profits.

Since 2008, the PRC government has gradually improved its refined oil pricing mechanism. When there is a change in the average crude oil price in the international market during a given time period, the PRC government can adjust refined oil prices. When international crude oil price experiences sustained increases or becomes significantly volatile, the PRC government may increase its control over the refined oil prices. As a result, the regulation on refined product prices by the PRC government may reduce our profit and cause our refining assets to suffer impairment.

We negotiate the actual settlement price with natural gas users within the price range permitted by the PRC government. When the domestic price is lower than the international natural gas price, the cost of our imported natural gas will be higher than the sales price of our natural gas, which may reduce our revenues and profit, or result in losses, cause our natural gas assets to suffer impairment.

Table of Contents

We receive most of our revenues in Renminbi. A portion of our Renminbi revenues must be converted into other currencies to meet our foreign currency obligations. The existing foreign exchange limitations under the PRC laws and regulations could affect our ability to obtain foreign exchange through debt financing, or to obtain foreign exchange for capital expenditures. The value of Renminbi against U.S. dollar and other currencies may fluctuate and is affected by, among other things, changes in China s political and economic conditions. The PRC government has implemented a floating exchange rate system to allow the value of the Renminbi to fluctuate within a regulated band based on market supply and demand and by reference to a basket of foreign currencies. Because most of our imports of crude oil, equipment and other materials and our outbound investments are settled in foreign currencies, the exchange rates between RMB and U.S. dollars and any other relevant foreign currencies may have an effect on our crude oil purchase costs and our investment costs.

Risks Related to Environmental Protection and Safety Production

Compliance with changes in laws, regulations and obligations relating to environmental protection and safety production could result in substantial expenditures and reduced profitability from increases in operating costs. In recent years, the PRC government has implemented environmental protection and safety production laws and regulations and has gradually improved refined oil standards which have stricter requirements for our business, and led to an increase in our operating costs. In the future, the PRC government will implement more stringent environmental protection and safety production regulations and impose higher standards on refined oil products. Compliance with these new regulations and standards will increase our costs and expenses.

Our oil and gas exploration and production activities shall comply with relevant PRC environment protection laws and regulations governing abandonment and disposal processes for oil and gas exploration and production activities. We have established standard abandonment procedures pursuant to these laws and regulations. We have included under our asset retirement obligations the costs for these abandonment activities and this asset retirement obligation is based on our best estimate of future abandonment expenditures. In addition, PRC national or local governments may enact stricter environmental protection regulations and our abandonment costs may increase as a result.

Exploring for, producing and transporting crude oil and natural gas and producing and transporting refined products and chemical products involve many hazards. These hazards may result in fires, explosions, spills, blow-outs and other unexpected or dangerous conditions causing personal injuries or death, property damage, environmental damage and interruption of operations.

Some of our oil and natural gas fields are surrounded by residential areas or located in areas where natural disasters, such as earthquakes, floods and sandstorms, tend to occur more frequently than in other areas. As with many other companies around the world that conduct similar businesses, we have experienced accidents that have caused property damage and personal injuries and death.

Significant operating hazards and natural disasters such as earthquake, tsunami and health epidemics may cause partial interruptions to our operations and property and environmental damage that could have an adverse impact on our financial condition.

Risks Related to Climate Change

In recent years, the oil industry has faced an increasingly severe challenge imposed by global climate change. Numerous international, domestic and regional treaties and agreements that restrict the emission of greenhouse gas have been executed and become effective. China and some other countries in which we operate have adopted, or are considering the adoption of, regulatory frameworks to reduce greenhouse gas emissions. These include adoption of carbon emission quota and trade regimes, carbon taxes, increased efficiency standards, and incentives or mandates for renewable energies. These requirements may lead to a substantial increase in our expenditures, make our products more expensive, lengthen our project time, reduce the demand for hydrocarbons, and shift hydrocarbon demand toward relatively low carbon sources such as natural gas. Current and pending greenhouse gas regulations may also increase our compliance costs, such as those for monitoring or sequestering emissions. As a result, our results of operations and our strategic investment may be adversely affected.

China is a signatory country to the Paris Agreement which has taken effect since November 2016. China is expected to reach the peak level of carbon emissions by 2030. In 2017, the PRC government rolled out the national carbon quota trading system. Our subsidiaries operating in China are expected to be subject to mandatory requirement with respect to carbon emission quota and trading in the next few years, which could increase our costs of operations.

Risks Related to Insurance

Due to the fact that oil industry is susceptible to high and industry-specific risks in nature, the current ordinary commercial insurance cannot cover all the business areas in which we operate. We maintain insurance coverage against some, but not all, potential losses. We may suffer material losses resulting from uninsurable or uninsured risks or insufficient insurance coverage.

Risks Related to Oil and Gas Reserves

The crude oil and natural gas reserves data in this annual report are only estimates. The reliability of reserves estimates depends on a number of factors, assumptions and variables, such as the quality and quantity of our technical and economic data and the prevailing oil and gas prices applicable to our production, some of which are beyond our control and may prove to be incorrect over time. Results of drilling, testing and production after the date of estimates may require substantial upward or downward revisions in our reserves data. Our actual production, revenues and expenditures with respect to our reserves may differ materially from these estimates because of these revisions.

We are actively pursuing business opportunities outside China to improve our international operations. We cannot assure you, however, that we can successfully locate sufficient, if any, alternative sources of crude oil supply due to the complexity of the international political, economic and other conditions. If we fail to obtain sufficient alternative sources of crude oil supply, our results of operations and financial condition may be materially and adversely affected.

Risks Related to Liquidity

We have made best endeavors to ensure an appropriate level of liquidity and financing ability. However, as we are currently making our efforts to find high-quality large-scale reserves, strengthening capacity building in key areas, constructing new, and expanding some existing, refinery and petrochemical facilities and constructing several natural gas and oil pipelines, we may have to make substantial capital expenditures and investments. We cannot assure you that the cash generated by our operations will be sufficient to fund these development plans or that our actual future capital expenditures and investments will not significantly exceed our current planned amounts. If either of these conditions arises, we may have to seek external financing to satisfy our capital needs. Our inability to obtain sufficient funding for our development plans could adversely affect our business, financial condition and results of operations.

Risks Related to Effectiveness of Internal Control over Financial Reporting

The SEC, as required by Section 404 of the Sarbanes-Oxley Act of 2002, has adopted rules requiring every public company in the United States to include a management report on such company s internal control over financial reporting in its annual report, which contains management s assessment of the effectiveness of our internal control over financial reporting. In addition, an independent registered public accounting firm must attest to and report on the effectiveness of our internal control over financial reporting. Although our management concluded that our internal control over our financial reporting for the fiscal year ended December 31, 2018 was effective, and our independent registered public accounting firm has issued an attestation report, which concluded that our internal control over financial reporting was effective in all material aspects as of December 31, 2018, we may discover other deficiencies in the course of our future evaluation of our internal control over our financial reporting and may be unable to remediate such deficiencies in a timely manner. If we fail to maintain the adequacy of our internal control over financial reporting, we may not be able to conclude that we have effective internal control over financial reporting on an ongoing basis, in accordance with the Sarbanes-Oxley Act. Moreover, effective internal control is necessary for us to produce reliable financial reports and is important to prevent fraud. As a result, our failure to maintain effective internal control over financial reporting could result in the loss of investor confidence in the reliability of our financial statements, which in turn could harm our business and negatively impact the trading prices of our ADSs, H Shares or A Shares.

Risks Related to Audit Reports Prepared by an Auditor who is not Inspected by the Public Company Accounting Oversight Board

As a company with shares registered with the U.S. Securities and Exchange Commission, or the SEC, and traded publicly in the United States, our independent registered public accounting firm is required under the laws of the United States to be registered with the Public Company Accounting Oversight Board, or the PCAOB, and undergo regular inspections by the PCAOB to assess its compliance with the laws of the United States and professional standards. The PCAOB, however, is currently unable to inspect a registered public accounting firm s audit work relating to a company s operations in China where the documentation of such audit work is located in China. Accordingly, our independent registered public accounting firm s audit of our operations in China is not subject to the PCAOB inspection.

The PCAOB has conducted inspections of independent registered public accounting firms outside of China and has at times identified deficiencies in the audit procedures and quality control procedures of those accounting firms. Such deficiencies may be addressed in those accounting firms future inspection process to improve their audit quality. Due to the lack of PCAOB inspections of audit work undertaken in China, our investors do not have the benefit of the PCAOB inspection of our independent registered public accounting firm s audit work and audit quality control procedures.

Risks Related to SEC Litigation Against the Big Four PRC-based Accounting Firms

On January 22, 2014, Judge Cameron Elliot, an SEC administrative law judge, issued an initial decision suspending the Chinese member firms of the Big Four accounting firms, including our independent registered public accounting firm, from, among other things, practicing before the SEC for six months. In February 2014, the initial decision was appealed. While under appeal and in February 2015, the Chinese member firms of Big Four accounting firms reached a settlement with the SEC. As part of the settlement, each of the Chinese member firms of Big Four accounting firms agreed to settlement terms that include a censure, undertakings to make a payment to the SEC, procedures and undertakings as to future requests for documents by the SEC and possible additional proceedings and remedies should those undertakings not be adhered to.

If the settlement terms are not adhered to, the Chinese member firms of Big Four accounting firms may be suspended from practicing before the SEC, which could in turn delay the timely filing of our financial statements with the SEC. In addition, it could be difficult for us to timely identify and engage another registered public accounting firm to audit and issue an opinion on our financial statements and our internal control over financial reporting. A delinquency in our filing of the annual report with the SEC may result in the NYSE initiating delisting procedures, which could harm our reputation and have other material adverse effects on our overall growth and prospect.

Table of Contents

Risks Related to Employee Misconduct

We may not be able to detect or prevent employee misconduct, including misconduct by senior management, and such misconduct may damage our reputation and could adversely affect the trading price of our ordinary shares and ADSs.

We have gradually reinforced and enhanced our internal control and corporate governance policies and procedures in order to strengthen our ability to detect and prevent employee misconduct. We cannot assure you, however, that we will be able to detect or prevent such misconduct in a timely fashion, or at all. If we fail to prevent employee misconduct, our reputation may be harmed, and the trading price of our ordinary shares and ADSs could be adversely affected.

Risks Related to Cyber Security

Our activities depend heavily on the reliability and security of our information technology (IT) systems. Our IT systems may suffer disruptions due to cyber-attack, computer intrusions and viruses, technical failure and disruptions, power and network outages or natural disasters. We have adopted multi-layer technological measures for prevention and detection of cybersecurity problems, and we also train our employees in order to improve their awareness and ability to detect and respond to cybersecurity situations. If our measures prove to be insufficient, the cybersecurity disruptions could damage or destroy assets, compromise business systems, result in proprietary information being altered, lost, or stolen; result in employee, customer, or third-party information or material intellectual property being compromised, cause physical harm to people or the environment, or otherwise disrupt our business operations. We could incur significant costs to remedy the effects of a major cybersecurity disruption in addition to costs in connection with resulting regulatory actions, litigation or reputational harm. As a result, we and our customers, employees, or third parties could be adversely affected, potentially having a material adverse effect on our business and financial conditions.

Item 4 *INFORMATION ON THE COMPANY*

Introduction

History and Development of Our Company

Our legal name is and its English translation is PetroChina Company Limited.

We are the largest oil and gas producer and seller occupying a leading position in the oil and gas industry in the PRC and one of the largest companies in the world. We are engaged in a broad range of petroleum and natural gas related activities, including the exploration, development, production and marketing of crude oil and natural gas; the refining of crude oil and petroleum products, as well as the production and marketing of basic petrochemical products, derivative chemical products and other chemical products; the marketing of refined oil products and trading; and the transmission of natural gas, crude oil and refined oil products as well as the sale of natural gas.

Currently, substantially all of our crude oil and natural gas reserves and production-related assets are located in China. Our exploration, development and production activities commenced in the early 1950s. Over more than six decades, we have conducted crude oil and natural gas exploration activities in many regions of China.

We commenced limited refining activities in the mid-1950s. Our chemicals operations commenced in the early 1950s. In the early 1960s, we began producing ethylene. Our natural gas transmission and marketing activities commenced in Sichuan in Southwestern China in the 1950s.

17

Table of Contents

We have increased our efforts to pursue attractive business opportunities outside China as part of our business growth strategy to utilize both domestic and international resources to strengthen our competitiveness. Since 2005, we have acquired interests in various oil and natural gas assets in several countries, which significantly expanded our overseas operations and effectively increased our oil and gas reserves and production volumes. We are currently assessing the feasibility of making further investments in international oil and gas markets. At the same time, we have been maintaining certain proportion of imported crude oil and natural gas in accordance with our needs. In 2018, we imported approximately 622.3 million barrels of crude oil, as compared to 486.1 million barrels and 572.5 million barrels of crude oil in 2016 and 2017, respectively.

We were established as a joint stock company with limited liability under the Company Law of the PRC on November 5, 1999 as part of a restructuring in which CNPC transferred to us most of the assets and liabilities of CNPC relating to its exploration and production, refining and marketing, chemicals and natural gas businesses.

On April 7, 2000, we completed a global offering of H Shares and ADSs. In September 2005, we completed a follow-on offering of over 3 billion H Shares at the price of HK$6.00 per share. In October 2007, we issued 4 billion A Shares at an issue price of RMB16.7 per share. The A Shares were listed on the Shanghai Stock Exchange on November 5, 2007. As of December 31, 2018, CNPC beneficially owned 148,010,665,536 A Shares and 291,518,000 H Shares in us, representing approximately 81.03% of our share capital in aggregate. The H Shares held by CNPC were through Fairy King Investments Limited, an overseas wholly owned subsidiary of CNPC.

For a description of our principal subsidiaries, see Note 19 to our consolidated financial statements.

Our headquarters are located at 9 Dongzhimen North Street, Dongcheng District, Beijing, China, 100007, and our telephone number at this address is (86-10) 5998-2622. Our website address is www.petrochina.com.cn. The information on our website is not part of this annual report. Our annual report on form 20-F and other reports filed electronically with the SEC can be found on the SEC s website www.sec.gov.

Our Corporate Organization Structure

The following chart illustrates our corporate organization structure as of December 31, 2018.

(1) Indicates approximate shareholding.
(2) Indicates approximate shareholding, including the 291,518,000 H Shares indirectly held by CNPC as of December 31, 2018 through Fairy King Investments Limited, a wholly owned overseas subsidiary of CNPC, and not including the 5,871,488,603 A Shares transferred to and held in a trust account as collaterals for the exchangeable bonds issued by CNPC.
(3) Includes PetroChina Planning & Engineering Institute, PetroChina Exploration & Development Research Institute, IT Service Center, PetroChina Petrochemical Research Institute and several other companies.

Acquisitions and Divestment

On March 21, 2018, we entered into a concession agreement with Abu Dhabi National Oil Company, pursuant to which we were granted 10% equity interest in the Abu Dhabi Umm Shaif & Nasr Oilfield for a fee of US$575 million and 10% equity interest in the Lower Zakum Oilfield for a fee of US$600 million, both for a term of 40 years.

On September 27, 2018, we entered into an equity purchase agreement with Total S.A. to acquire the 22.407% equity interest held by Total S.A. in Dalian West Pacific Petrochemical Co., Ltd. (Dalian West Pacific). On December 6, 2018, we entered into an equity purchase agreement with each of Sinochem Group Co., Ltd. and Sinochem International Oil (Hong Kong) Co. Ltd., to acquire 8.424% and 25.208% equity interests in Dalian West Pacific, respectively. After the completion of the aforementioned equity purchase, together with our existing equity interest, we will hold a total equity interest of 84.475% equity in Dalian West Pacific and Dalian West Pacific will become one of our principal subsidiaries.

For information on capital expenditures, please see Item 5 Operating and Financial Review and Prospects Liquidity and Capital Resources Capital Expenditures and Investments.

Table of Contents

Table of Contents

Exploration and Production

We engage in crude oil and natural gas exploration, development and production. Substantially all of our total estimated proved crude oil and natural gas reserves are located in China, principally in Northeastern, Northern, Southwestern and Northwestern China. Meanwhile, we have enhanced our overseas cooperation and expanded our strategic presence in five major overseas oil and gas cooperation regions by conducting new project development. In 2018, the crude oil and natural gas produced by us at overseas regions accounted for 17.6% and 7.8% of our total production of crude oil and natural gas, respectively.

We currently hold exploration and exploitation licenses for oil and gas (including coal seam gas) covering a total area of approximately 295.5 million acres, including the exploration licenses covering a total area of approximately 264.8 million acres and the exploitation licenses covering a total area of approximately 30.7 million acres.

The following table sets forth the financial and operating data of our exploration and production segment for each of the years ended December 31, 2016, 2017 and 2018:

	Year Ended December 31,		
	2016	**2017**	**2018**
Revenue (RMB in millions)	412,484	505,430	658,712
Profit from operations (RMB in millions)	3,148	15,475	73,519
Proved developed and undeveloped reserves			
Crude oil (million barrels)	7,437.8	7,481.3	7,640.8
Natural gas (Bcf)	78,711.8	76,887.6	76,467.0
Production			
Crude oil (million barrels)	920.7	887.0	890.3
Natural gas for sale (Bcf)	3,274.5	3,423.4	3,607.6

Reserves

As of December 31, 2018, our total estimated proved reserves of crude oil was approximately 7,640.8 million barrels and our total estimated proved reserves of natural gas was approximately 76,467.0 Bcf. As of December 31, 2018, proved developed reserves for crude oil and natural gas accounted for 76.5% and 52.5% of our total proved crude oil and natural gas reserves, respectively. Total proved hydrocarbon reserves, including our overseas crude oil reserves of 811.0 million barrels and overseas natural gas reserves of 1,986.9 Bcf, increased by 0.44% from approximately 20,295.9 million BOE as of December 31, 2017 to approximately 20,385.3 million BOE as of December 31, 2018. Natural gas as a percentage of total proved hydrocarbon reserves decreased from 63.1% as of December 31, 2017 to 62.5% as of December 31, 2018.

Approximately 33% of our estimated proved reserves as of December 31, 2018 was assessed by our internal assessment team and audited by our independent engineering consultant. The other part of our estimated proved reserves as of December 31, 2018 and the estimated proved reserves as of December 31, 2016 and 2017 were based on the assessment performed by our independent engineering consultants according to the reserves assessment methodology generally adopted in the U.S. Our independent engineering consultants for 2016, 2017 and 2018 were DeGolyer and MacNaughton, Ryder Scott Company L.P., GLJ Petroleum Consultants and McDaniel & Associates Consultants Ltd. Our reserves estimates include only crude oil and natural gas which we believe can be reasonably produced within the current terms of our production licenses or within the terms of the licenses which we are reasonably certain can be renewed. See Regulatory Matters Exploration Licenses and Production Licenses for a discussion of our production licenses. Also see Item 3 Key Information Risk Factors Risks Related to Oil and Gas Reserves for a discussion of the uncertainty inherent in the estimation of proved reserves.

Table of Contents

Our reserves data in 2016, 2017 and 2018 were prepared in accordance with the SEC s final rules on Modernization of Oil and Gas Reporting .

Internal Controls Over Reserves Estimates

We have appointed a Reserves Assessment Directing Team, or the RAD Team. The leader of the RAD Team is our president.

We have implemented a practicing professional certification regime to supervise our employees engaged in oil and gas reserves evaluation and auditing functions. We have set up a team of reserves auditors covering our headquarter office and regional companies to perform reserves evaluation and audits. Meanwhile, we have established a special reserves management department in our exploration and production segment. Each of the officers and employees of that department has over 20 years experience in oil industry and over 10 years experience in SEC-guided reserves evaluation. All of the members of that department have national-level registered qualifications in reserves expertise. Each regional company has established a reserves management committee and a multi-disciplinary reserves research office. Mr. Duan Xiaowen from the Reserves Administration Division of the exploration and production segment, is the person in charge of our reserves estimation. Mr. Duan holds a bachelor s degree in geology and a master s degree in business administration. He has over 25 years of work experience in oil and gas exploration and development industry and has been engaged in reserves estimate and management for a long time. Since 2008, Mr. Duan has been involved in the supervision of reserves estimation and management in our company. In 2016, Mr. Duan became the division head primarily responsible for overseeing the preparation of the reserves estimates, estimation technology and management. The reserves research offices of the regional companies are responsible for estimating newly discovered reserves and updating the estimates of existing reserves. The results of our oil and gas reserves assessment are subject to a two-level review by both the regional companies and our exploration and production company, with final examination and approval by the RAD Team.

In addition, we commissioned independent assessment firms to independently reassess or audit our annually assessed proved reserves in accordance with relevant SEC rules. We disclose the reserves in accordance with the SEC requirements.

Third-Party Reserves Reports

DeGolyer and MacNaughton, an independent petroleum engineering consulting firm based in the United States, carried out an independent assessment and audit of our reserves in China and certain other countries as of December 31, 2016, 2017 and 2018. Mr. Thomas C. Pence, a senior vice president of DeGolyer and MacNaughton, is primarily responsible for supervising the preparation of our reserves report. Mr. Pence is a Registered Professional Engineer in Texas, a member of the International Society of Petroleum Engineers, and has over 36 years of experience in oil and gas reservoir studies and reserves evaluations.

Ryder Scott Company, L.P. (Ryder Scott), an independent petroleum engineering consulting firm based in the United States, carried out an independent assessment of certain of our selected petroleum assets such as in Chad, West Qurna and Peru as of December 31, 2016, 2017 and 2018. Mr. Timour Baichev, a vice president of Ryder Scott, was responsible for overseeing the estimate of the reserves, future production and income as stated in the reserves report. Mr. Timour Baichev is a licensed professional engineer and has over 35 years of experience in the petroleum reserves estimation and evaluation.

GLJ Petroleum Consultants (GLJ), a petroleum consulting firm based in Canada, carried out an independent assessment of our reserves for certain gas and oil properties in Canada as of December 31, 2016, 2017 and 2018.

Ms. Trisha MacDonald was the project manager for the evaluation. She is a senior engineer and has over 10 years of relevant experience.

Table of Contents

McDaniel & Associates Consultants Ltd., a petroleum consulting firm with its headquarters in Canada, carried out an independent assessment of our reserves held through PetroKazakhstan Inc. as of December 31, 2016, 2017 and 2018. Mr. Cam Boulton, a vice president of McDaniel & Associates Consultants Ltd., was responsible for supervising the preparation of our reserves report. Mr. Boulton is a member of the Association of Professional Engineers and Geoscientists of Alberta and a member of Society of Petroleum Engineers. He has over 10 years experience in oil and gas reservoir evaluation.

None of the above consulting firms or their partners, senior officers or employees has any direct or indirect financial interest in our company and the remunerations to the firms are not in any way contingent upon reported reserves estimates.

For detailed information about our net proved reserves estimates, please refer to the summary reports of reserves filed herewith as exhibits to this annual report on Form 20-F.

The following table sets forth our estimated proved reserves (including proved developed reserves and proved undeveloped reserves), proved developed reserves and proved undeveloped reserves of crude oil and natural gas as of December 31, 2016, 2017 and 2018.

	Crude Oil and Condensate (Million barrels)	**Natural Gas[1] (Bcf)**	**Combined (BOE, in millions)**
Proved developed and undeveloped reserves			
Reserves as of December 31, 2015	8,521.1	77,524.7	21,441.9
Revisions of previous estimates	(810.9)	(863.2)	(954.7)
Extensions and discoveries	491.7	4,770.3	1,286.8
Improved recovery	93.0		93.0
Purchased	63.6	554.5	156.0
Production for the year	(920.7)	(3,274.5)	(1,466.6)
Reserves as of December 31, 2016	7,437.8	78,711.8	20,556.4
Revisions of previous estimates	486.2	(1,750.8)	194.6
Extensions and discoveries	346.3	3,350.0	904.6
Improved recovery	98.0		98.0
Purchased			
Production for the year	(887.0)	(3,423.4)	(1,457.7)
Reserves as of December 31, 2017	7,481.3	76,887.6	20,295.9
Revisions of previous estimates	334.7	(1,377.9)	105.2
Extensions and discoveries	427.5	4,564.9	1,188.3
Improved recovery	95.9		95.9
Purchased	191.7		191.7
Production for the year	(890.3)	(3,607.6)	(1,491.7)
Reserves as of December 31, 2018	7,640.8	76,467.0	20,385.3
Proved developed reserves			
As of December 31, 2016	5,176.3	40,663.8	11,953.5
As of December 31, 2017	5,592.9	39,242.6	12,133.2
As of December 31, 2018	5,843.1	40,128.2	12,531.1
Proved undeveloped reserves			

As of December 31, 2016	2,261.5	38,048.0	8,602.9
As of December 31, 2017	1,888.4	37,645.0	8,162.7
As of December 31, 2018	1,797.7	36,338.8	7,854.2
Share of proved developed and undeveloped reserves in associates and joint ventures calculated by the equity method			
As of December 31, 2016	504.0	347.6	561.9
As of December 31, 2017	395.3	372.3	457.3
As of December 31, 2018	321.4	429.4	392.9

(1) Represents natural gas remaining after field separation for condensate removal and reduction for flared gas.

Table of Contents

Our proved undeveloped reserves were 7,854.2 million BOE as of December 31, 2018. The main changes in our proved undeveloped reserves in 2018 included (i) an increase of 1,188.3 million BOE through extensions and discoveries; (ii) an increase of 95.9 million BOE through improved recovery; (iii) a decrease of 223.9 million BOE due to our optimization adjustment in the investment plans with respect to certain existing proved undeveloped reserves considering certain new discoveries; and (iv) the conversion of 1,368.8 million BOE of proved undeveloped reserves into proved developed reserves. In 2018, we spent RMB134,995 million on developing proved undeveloped reserves. The overwhelming majority of our proved undeveloped reserves were situated around the oil fields that are currently producing. The majority of our proved undeveloped reserves are already scheduled for development within five years after initial booking.

Some of our natural gas proved undeveloped reserves are being developed more than five years after their initial disclosure primarily due to the effect of long-term natural gas supply contracts. The sale of natural gas produced from our reserves located in China is subject to our long-term contractual obligations to provide a stable supply of natural gas to customers. We sell all of the natural gas through our pipelines and under long-term supply arrangements with customers.

There are mainly two types of long-term supply arrangements. The first is multi-year supply contracts with terms ranging from 20 to 30 years that can be extended upon mutual agreement. The second type is renewable annual contracts. The majority of the natural gas produced from our gas fields in China is put into our nationwide, long-range pipeline system and sold to customers who have entered into multi-year supply contracts with us in the areas where the long-range pipeline system covers. A small portion of the natural gas produced by our company is put into local or internal pipeline systems and sold to customers in the areas adjacent to our gas fields. These customers typically have formed de-facto long-term relationships with our company over the years and enter into supply contracts with us before the year end to determine the amount of gas to be purchased for the next year, with such contracts being renewed every year. In general, our supply relationships with customers under the annual contracts have existed for more than ten years.

Mainly as a result of our contractual obligations to ensure a long-term, stable supply of natural gas to customers, we must maintain a relatively large amount of proved undeveloped natural gas reserves and develop them over an extended period of time (in some cases, longer than five years).

The following tables set forth our crude oil and natural gas proved reserves and proved developed reserves by region as of December 31, 2016, 2017 and 2018.

	As of December 31,					
	2016		2017		2018	
	Proved Developed and Undeveloped	Proved Developed	Proved Developed and Undeveloped	Proved Developed	Proved Developed and Undeveloped	Proved Developed
	(Million barrels)					
Crude oil reserves						
Daqing	1,504.7	1,226.3	1,513.7	1,283.9	1,487.4	1,272.5
Changqing	1,917.8	1,319.1	2,049.2	1,413.9	2,095.2	1,423.6
Xinjiang	795.1	730.5	927.3	855.9	1,000.0	894.6
Other regions[(1)]	3,220.2	1,900.4	2,991.1	2,039.2	3,058.2	2,252.4

Total	7,437.8	5,176.3	7,481.3	5,592.9	7,640.8	5,843.1

	As of December 31,					
	2016		2017		2018	
	Proved Developed and Undeveloped	Proved Developed	Proved Developed and Undeveloped	Proved Developed	Proved Developed and Undeveloped	Proved Developed
	(Bcf)					
Natural gas reserves(2)						
Changqing	25,697.9	9,920.8	25,509.2	9,107.4	25,425.8	9,406.5
Tarim	24,019.2	14,336.1	22,918.7	14,054.7	22,805.9	13,844.9
Chuanyu	13,905.1	6,982.4	13,838.0	6,756.5	13,882.7	7,857.5
Other regions(1)	15,089.6	9,424.5	14,621.7	9,324.0	14,352.6	9,019.3
Total	78,711.8	40,663.8	76,887.6	39,242.6	76,467.0	40,128.2

(1) Represents other oil regions in China and our overseas oil and gas fields.
(2) Represents natural gas remaining after field separation for condensate removal and reduction for flared gas.

Exploration and Development

We are currently conducting exploration and development efforts in 12 provinces, two municipalities under the direct administration of the central government and three autonomous regions in China as well as in certain regions in other countries. We believe that we have more extensive experience in the exploration and development of crude oil and natural gas than any of our principal competitors in China.

The following table sets forth the number of wells we drilled, or in which we participated, and the results thereof, for the periods indicated.

Year	Daqing	Xinjiang	Changqing	Others(1)	Total
2016					
Net exploratory wells drilled(2)	148	134	955	550	1,787
Crude oil	127	87	625	353	1,192
Natural gas	9	1	125	75	210
Dry(3)	12	46	205	122	385
Net development wells drilled(2)	3,150	792	5,135	2,194	11,271
Crude oil	3,129	777	4,526	1,824	10,256
Natural gas	15	15	551	354	935
Dry(3)	6		58	16	80
2017					
Net exploratory wells drilled(2)	217	132	868	608	1,825
Crude oil	184	69	539	346	1,138
Natural gas	13	11	59	108	191
Dry(3)	20	52	270	154	496
Net development wells drilled(2)	3,205	1,520	6,020	3,731	14,476
Crude oil	3,185	1,504	4,217	2,898	11,804

Natural gas	10	13	1,746	820	2,589
Dry(3)	10	3	57	13	83
2018					
Net exploratory wells drilled(2)	231	130	885	532	1,778
Crude oil	207	100	503	299	1,109
Natural gas	15	11	65	89	180
Dry(3)	9	19	317	144	489
Net development wells drilled(2)	3,421	1,630	6,233	3,893	15,177
Crude oil	3,398	1,619	4,086	2,990	12,093
Natural gas	16	11	2,098	885	3,010
Dry(3)	7		49	18	74

(1) Represents the Liaohe, Jilin, Huabei, Dagang, Sichuan, Tarim, Tuha, Qinghai, Jidong, Yumen, Zhejiang, southern and other oil regions.
(2) Net wells refer to the wells after deducting interests of others. No third parties own any interests in any of our wells.
(3) Dry wells are wells with insufficient reserves to sustain commercial production.

We had 499 wells in the process of being drilled and 9,792 wells with multiple completions as of December 31, 2018.

Oil-and-Gas Properties

The following table sets forth our interests in developed and undeveloped acreage by oil region and in productive crude oil and natural gas wells as of December 31, 2018.

			Acreage(1) (Thousand acres)			
	Productive Wells(1)		Developed		Undeveloped	
Oil Region	**Crude Oil**	**Natural Gas**	**Crude Oil**	**Natural Gas**	**Crude Oil**	**Natural Gas**
Daqing	77,144	580	1,144.42	103.41	726.90	133.69
Changqing	64,134	15,890	1,510.19	6,628.20	844.83	3,292.87
Xinjiang	34,214	300	394.23	63.44	260.24	18.27
Other regions(2)	75,175	6,182	1,671.95	1,320.08	1,014.48	1,871.44
Total	250,667	22,952	4,720.79	8,115.13	2,846.45	5,316.27

(1) Includes all wells and acreage in which we have an interest. No third parties own any interests in any of our wells or acreage.
(2) Represents the Liaohe, Jilin, Huabei, Dagang, Southwestern, Tarim, Tuha, Qinghai, Jidong, Yumen, Zhejiang, Southern and other oil regions.

Table of Contents

Production

The following table sets forth our historical average net daily crude oil and natural gas production by region and our average sales price for the years ended December 31, 2016, 2017 and 2018.

	For the Year Ended December 31,			% of
	2016	**2017**	**2018**	**2018 Total**
Crude oil production[1]				
(thousand barrels per day, except percentages or otherwise indicated)				
Daqing	717.2	668.8	632.6	25.9
Changqing	482.7	479.9	480.9	19.7
Xinjiang	224.7	229.0	232.2	9.5
Other[2]	1,090.9	1,052.4	1,093.4	44.9
Total	2,515.5	2,430.1	2,439.1	100.0
Annual production (million barrels)	920.7	887.0	890.3	
Average sales price (US$ per barrel)	37.99	50.64	68.28	
Natural gas production[1][3]				
(million cubic feet per day, except percentages or otherwise indicated)				
Changqing	3,103.5	3,121.7	3,275.3	33.1
Tarim	2,093.1	2,277.3	2,353.4	23.8
Chuanyu	1,696.1	1,844.1	1,979.9	20.0
Other[4]	2,054.1	2,136.1	2,275.3	23.1
Total	8,946.8	9,379.2	9,883.9	100.0
Annual production (Bcf)	3,274.5	3,423.4	3,607.6	
Average realized price (US$ per Mcf)[5]	4.69	5.18	5.85	

(1) Production volumes for each region include our share of the production from all of our cooperative projects with foreign companies in that region.

(2) Represents production from the Liaohe, Jilin, Huabei, Dagang, Tarim, Tuha, Qinghai, Jidong, Yumen and other oil regions and our share of overseas production as a result of our acquisition of overseas assets.

(3) Represents production of natural gas for sale.

(4) Represents production from the Daqing, Qinghai, Tuha, Xinjiang, Liaohe, Huabei, Dagang, Jilin, Jidong, Yumen and other oil and gas regions and our share of overseas production as a result of our acquisition of overseas assets.

(5) As the sales volume of urban gas was included in the sales volume of natural gas beginning in 2018, the average realized prices for 2016 and 2017 were retrospectively adjusted by applying the same approach. For natural gas citygate price, please refer to Item 5 Operating and Financial Review and Prospects Overview .

In 2018, we supplied a substantial majority of our total crude oil sales to our refineries. In addition, we enter into annual crude oil mutual supply framework agreement with Sinopec for supply of crude oil to each other s refineries. Under the annual agreement for 2019, we agreed in principle to supply 0.74 million tons of crude oil to Sinopec s refineries and Sinopec agreed in principle to supply 1.26 million tons of crude oil to us in 2019.

Table of Contents

The following table sets forth our average sales prices and average lifting costs of crude oil and natural gas of our company on an overall basis and those in China in 2016, 2017 and 2018.

	Crude Oil Average Realized Prices (RMB/ton)	Natural Gas(1) Average Realized Prices (RMB/Kilostere)	Average Lifting Cost (US$/BOE)
2016			
Overall	1,865	1,099	11.67
China	1,831	1,146	13.00
2017			
Overall	2,526	1,235	11.53
China	2,494	1,225	12.71
2018			
Overall	3,338	1,367	12.31
China	3,350	1,338	13.55

(1) As the sales volume of urban gas was included in the sales volume of natural gas beginning in 2018, the average realized prices for 2016 and 2017 were retrospectively adjusted by applying the same approach.

Principal Oil and Gas Regions

Daqing Oil Region

The Daqing oil region, our largest oil and gas producing property, is located in the Songliao basin and covers an area of approximately one million acres. In 2016, 2017 and 2018, our crude oil production volume in the Daqing oil region was 717.2 thousand barrels, 668.8 thousand barrels and 632.6 thousand barrels per day, respectively. As of December 31, 2018, we produced crude oil from 40 fields in the Daqing oil region.

As of December 31, 2018, our proved crude oil reserves in the Daqing oil region were 1,487.4 million barrels, representing 19.5% of our total proved crude oil reserves. As of December 31, 2016 and 2017, the proved crude oil reserves in our Daqing oil region were 1,504.7 million barrels and 1,513.7 million barrels, respectively. In 2018, the crude oil reserve-to-production ratio of the Daqing oil region was 6.3 years.

Daqing s crude oil has low sulfur and high paraffin content. As many refineries in China, particularly those in Northeastern China, are configured to refine Daqing crude oil, we have a stable market for the crude oil we produce in the Daqing oil region.

Changqing Oil and Gas Region

The Changqing oil and gas region covers parts of Shaanxi Province, Gansu Province, Ningxia, Inner Mongolia and Shanxi Province. As of December 31, 2018, our proved crude oil reserves in the Changqing oil region were 2,095.2 million barrels, representing 27.4% of our total proved crude oil reserves. In 2018, our crude oil production in the Changqing oil region averaged 480.9 thousand barrels per day, representing approximately 19.7% of our total daily crude oil production. In 2018, the crude oil reserve-to-production ratio at the Changqing oil region was 11.9 years.

In the early 1990s, we discovered the Changqing oil and gas region, which had total proved natural gas reserves of 25,425.8 Bcf as of December 31, 2018, representing 33.3% of our total proved natural gas reserves. In January 2001, we discovered the Sulige gas field in the Changqing oil and gas region, which had total proved natural gas reserves of 14,403.0 Bcf as of December 31, 2018. Sulige gas field is currently the largest gas field in China. In 2018, the Changqing oil and gas region produced 1,195.5 Bcf of natural gas for sale, representing an increase of 4.9% from 1,139.4 Bcf in 2017.

Table of Contents

Xinjiang Oil Region

The Xinjiang oil region is one of our four largest crude oil producing properties and is located in the Junggar basin in Northwestern China. We commenced our operations in the Xinjiang oil region in 1951. The Xinjiang oil region covers a total area of approximately 900,000 acres.

As of December 31, 2018, our proved crude oil reserves in the Xinjiang oil region were 1,000.0 million barrels, representing 13.1% of our total proved crude oil reserves. In 2018, our oil fields in the Xinjiang oil region produced an average of 232.2 thousand barrels of crude oil per day, representing approximately 9.5% of our total daily crude oil production. In 2018, the crude oil reserve-to-production ratio at the Xinjiang oil region was 11.8 years.

Tarim Oil and Gas Region

The Tarim oil and gas region is located in the Tarim basin in Northwestern China with a total area of approximately 590,000 acres. In 1998, we discovered the Kela 2 natural gas field in the Tarim oil and gas region. As of December 31, 2018, the proved natural gas reserves in the Tarim oil and gas region reached 22,805.9 Bcf, representing 29.8% of our total proved natural gas reserves.

In 2018, we produced 859.0 Bcf of natural gas for sale in the Tarim oil and gas region. We have completed the construction of the pipelines to deliver natural gas in the Tarim oil and gas region to the central and Eastern regions of China where there is strong demand for natural gas transmitted through our West-East Gas Pipelines.

Chuanyu Gas Region

We began natural gas exploration and production in the Chuanyu gas region in the 1950s. The Chuanyu gas region covers a total area of approximately 2.3 million acres. The natural gas reserve-to-production ratio in the Chuanyu gas region was approximately 19.2 years in 2018. As of December 31, 2018, we had 116 natural gas fields under development in the Chuanyu gas region.

As of December 31, 2018, our proved natural gas reserves in the Chuanyu gas region were 13,882.7 Bcf, representing 18.2% of our total proved natural gas reserves and an increase of 0.3% from 13,838.0 Bcf as of December 31, 2017. In 2018, our natural gas production for sale in the Chuanyu gas region reached 722.7 Bcf, representing 20.0% of our total natural gas production for sale.

Table of Contents

Table of Contents

Refining and Chemicals

We now operate 29 enterprises located in nine provinces, four autonomous regions and three municipalities to engage in refining of crude oil and petroleum products, as well as the production and marketing of basic petrochemical products, derivative chemical products and other chemical products.

The following table sets forth the financial and operating data of our refining and chemicals segment for each of the years ended December 31, 2016, 2017 and 2018.

	Year Ended December 31,		
	2016	2017	2018
Revenue (RMB in millions)	582,510	707,804	874,125
Profit from operations (RMB in millions)	39,026	39,961	42,756
Crude oil processed (million barrels)	953.3	1,016.9	1,122.8
Crude oil primary distillation capacity (million barrels/year)	1,257.6	1,347.0	1,380.3
Production of refined oil products (thousand tons)	86,022	92,715	105,342

Refining

Refined Products

We produce a wide range of refined products at our refineries. Some of the refined products are for our internal consumption and used as raw materials in our petrochemical operation. The table below sets forth production volumes for our principal refined products for each of the years ended December 31, 2016, 2017 and 2018.

	Year Ended December 31,		
Principal Product	2016	2017	2018
	(In thousand tons)		
Diesel	46,689	48,241	52,022
Gasoline	33,275	37,363	43,453
Kerosene	6,058	7,111	9,867
Lubricants	1,164	1,636	1,600
Fuel oil			